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## THE BEGINNINGS OF PHILOSOPHY IN AUSTRALIA AND THE WORK OF HENRY LAURIE.

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### II.—THE WORK OF HENRY LAURIE.

*University Teaching.*—It would be an alluring exercise to detail the main trends of the teachings of the Australian professors of philosophy of whom I have made brief mention. But I must needs confine the remainder of this address to a more extended account of the leading ideas of my own esteemed teacher, Henry Laurie.

On September 22, 1838, Laurie was born at Comely Bank, Edinburgh.<sup>1</sup> His father was a writer to the signet. Like many another Scottish lad before him and since, he earned his own living while attending lectures at the University. He was an undergraduate at Edinburgh during the years 1856–58, and enrolled in the classes under Professors A. Campbell Fraser and P. C. MacDougall. He gained prizes for essays on “Berkeley’s Theory of Matter” (1857) and on “Spinozism” (1858). Professor Fraser said to him that he was one of his ablest and most distinguished students, and Professor MacDougall regarded him as one of the most gifted students of philosophy who had passed through his hands. Professor William Knight, of St. Andrews, who remained one of Laurie’s lifelong friends, remarked that his academical career in Edinburgh was one of the most distinguished among his contemporaries. Owing to an unfortunate breakdown of health, Laurie was not able to graduate at Edinburgh. He migrated first to Canada and afterwards to Australia in 1864. He had hoped to become an inspector of schools, and obtained testimonials in 1865 from his University teachers and other friends. These he eventually used in his application for the newly-established lectureship in Logic at the University of Melbourne in 1881. In the

<sup>1</sup> For the biographical information I am indebted to Dr. Henry Laurie, of St. Kilda, Melbourne.

meantime he had entered upon a journalistic career and became editor and proprietor of the *Warrnambool Standard*. He not only secured a wide recognition for his paper, but he added greatly to his own reputation as a *littérateur*. In 1882 Laurie was appointed Lecturer in Logic at Melbourne, and four years later was elevated to the new Chair of Mental and Moral Philosophy, which he held till 1911, when he resigned on account of the state of his health. Shortly after this promotion St. Andrews granted him the honorary degree of LL.D. For several years during the 'nineties Laurie contributed the weekly leading article of *The Australasian*. He had a fondness for literature, and some of his learned friends had designated him as worthy to hold a Chair in English. A few of his poems<sup>1</sup> were inserted in *Pro Patria et Regina*, collected and edited by William Knight, 1901, in aid of Queen Alexandra's fund for soldiers and sailors. He delivered University extension lectures on Robert Browning's poetry, and at the Browning centenary celebration in London, 1912, he contributed a paper entitled an "Australian Appreciation of Robert Browning", which was included in the published volume of the addresses. Another literary effort was his well-known lecture to the Classical Association of Victoria in 1919 (published in 1921) on "Plato in English Literature". He was the first president of the Section of Mental Science and Education of the Australasian Association for the Advancement of Science, his address being "Recent Progress and Present Position of Mental Science", which was mainly a plea for the independent status of psychology and the establishment of psychological laboratories in Australia. He later on delivered another presidential address on "Materialism". His main published work was "Scottish Philosophy in Its National Development" (1902). His many other publications included "Some Thoughts on Immortality" (1901) and an important article in *Mind* (N.S., Vol. 2, 1893) on "Methods of Inductive Inquiry".<sup>2</sup>

<sup>1</sup> Laurie had announced in 1868 the anonymous publication of his verses under the title "Poems by the Way". Apparently his purpose was not fulfilled. But the title appears on a notebook in MS., containing a selection of his poems.

<sup>2</sup> So far as known Laurie's published writings are as follows:

Conservatism v. Democracy. 23 pp. Melbourne and Warrnambool, 1868.

A plea for Philosophy. *Victorian Review*, November, 1881, pp. 76-89.

The Study of Mental Philosophy. *Melbourne Review*, Vol. 10, 1885, pp. 185-195.

[A plea for the recognition of the status of philosophy in the Melbourne University in view of the then prevailing opposition to the establishment of the Chair of Mental and Moral Philosophy.]

Some of Browning's Thoughts about Painting addressed to Victorian Artists. *Centennial Magazine*, Vol. 2, 1889-90, pp. 35-38, d.c.

A Search for Knowledge. *Ibid.*, pp. 510-515, d.c. [A review of A. N. Pearson's book with this title.]

Methods of Inductive Inquiry. *Mind*, N.S., Vol. 2, 1893.

Recent Progress and Present Position of Mental Science. 11 pp. A.A.A.S. Trans., Vol. 5, 1893.

[Selection of Poems in] *Pro Patria et Regina*; ed. W. Knight, London, 1901.

Some Thoughts on Immortality. 32 pp. Melbourne, 1901.

Theory of Use-Inheritance, Psychologically Considered. A.A.A.S. Trans., Vol. 9, 1902.

In 1870 Laurie married Frances Read Spalding, daughter of Professor William Spalding, of Edinburgh and St. Andrews. Two of his sons, Drs. Henry and Spalding Laurie, are well-known physicians; the youngest, Andrew Wilson Laurie, is a solicitor. After his retirement from professorial duties he visited Europe, and on his return to Australia lived in retirement at South Yarra, Melbourne, where he died on May 13, 1922.

In his own department at the University of Melbourne, Laurie had the whole field of philosophy to himself (including logic, psychology, ethics and metaphysics), and it was no easy task to sketch a synoptic view in a well-balanced setting, as those who are similarly situated today can testify.

His lectures were usually written out in full, and he read them with a convincing earnestness that readily impressed itself upon the minds of his students. Occasionally he would resort to extemporized explanations of passages of his own thoughts or of the thinkers he was expounding. He was remarkably clear in exposition, and his style was simple and direct. His treatment of the works of other thinkers was sympathetic and appreciative, and his criticism sound and just; he admired the best whenever he found it. He was never ruffled. The clashes of philosophical criticism he regarded as merely means to the attainment of a higher and more complete point of view, and valued them accordingly. They were improperly indulged in if wittingly invented or used for the purposes of acrimony or personal gratification. He was most careful to set forth as clearly and as effectively as possible the views of the thinkers he intended to criticize, and the more stunning his criticism, the more anxious he was that he should not omit anything which had a favourable bearing upon his opponent's argument. He was catholic in the range of his interests and most painstaking in the garnering of facts, and he never failed to record what would appear to tell against his own point of view. Fairmindedness was for him a requirement of the searchers after truth wherever it might be found, and he developed this trait in himself almost to superfluity; but he was unflinching in devotion to his own settled beliefs which had come through the test of a searching examination. He was truly a noble example to his students; and, despite a measure of shyness which seemed to come from a genuine humility of mind, he drew them to himself and held their loyalty and confidence. By intimate contact he did more to develop in his students a devoted interest in philosophical

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Scottish Philosophy in Its National Development. 352 pp. Maclehose, Glasgow, 1902.

Materialism. 18 pp. A.A.A.S. Trans., Vol. 11, 1907.

Australian Appreciation of Robert Browning. In Robert Browning Centenary Celebration, 1912; ed. by Knight, 1912, pp. 55-62.

Plato in English Literature; address to Classical Association of Victoria. 31 pp. Melbourne, 1921.

studies than by the delivery of his lectures. He was not given to oratorical display ; and although his reserve was somewhat against him in the lecture room, yet he had compensations of a higher order in his forthright sincerity and his dispassionate adherence to what was noblest in human achievement. He was a deeply devout man on whose mind the universe impressed itself with wonderment and awe. He never paraded his religious beliefs, but revealed in his character and conduct the workings of the moral law rooted in the faith which he had imbibed in the land of his fathers. The cause of truth was ever uppermost in Laurie's mind, and fearlessness in devotion to it, combined with fair and honourable appreciation of opposing views, remained with him unto the last. He ever deprecated (as already hinted) unseemly controversy or appeal to the vulgar in philosophical inquiry. It seems fitting to quote from his "Scottish Philosophy" (p. 174) some remarks on this very point in criticism of James Beattie. "The philosophers who have been most esteemed in Scotland have not been in the habit of introducing the *odium theologicum*, or even the *odium ethicum*, into their writings. However firmly they may have held their practical or speculative beliefs, they have met their opponents fairly on grounds of reason and treated them on terms of equality. It is characteristic of the religious mind of Scotland that nothing is to be dreaded from the freest inquiry, that a true philosophy must be friendly to a true religion, and that the controversies of philosophy should be fought out to the end. And thus Scotsmen in every part of the world—under the Southern Cross as under Northern constellations—have always been prominent advocates of the teaching of philosophy."

Laurie divided his courses of study into five main divisions, *viz.* : Logic, Psychology, Ethics, Metaphysics, and the History of Philosophy. His lectures on Logic comprised both formal and material logic, and worked in the German conception of the subject as allied to the theory of knowledge. He made a feature of symbolic logic, which for the average student without adequate mathematical training was usually repellent ; but it had a great advantage as a mental discipline in enabling him to split up the complexities of a problem or thread his way through the intricacies of an argument. It made for precision in thinking. Laurie followed Venn in regarding symbolic logic as a development and generalization of the common or traditional logic. It provided means for grappling with an extended series of propositions in an involved reasoning process, where the ordinary methods of the syllogism were limited and confined. Though there has been a spread of formal or mathematical logic in recent times, the treatment of this subject in Australian Universities has not extended itself greatly since the retirement of Laurie from active teaching.

Laurie's studies in logic followed mainly the traditional lines with a bias towards the formal side in which his skill was acknowledged by J. N. Keynes. His opposition to empiricism enabled him to offer an elaborated criticism of Mill's fundamental position ; but at the same time he lauded the greatness of Mill in his constructive presentation of the logical methods of the positive sciences. Whatever advances are made in modern textbooks in logic, Mill's outstanding achievement has an inherent claim to a first-hand intimacy from latter-day students. In a convincing examination of Mill's well-known methods of inductive inquiry Laurie made a critical reconstruction which has since been followed in the leading works on inductive logic, including the "Problem of Logic" by his distinguished successor, Professor W. R. Boyce-Gibson.

In none of his departments of study did Laurie present a systematic treatment. He was more concerned to introduce his hearers directly to the works of the great thinkers and prepare their minds for a critical approach. Accordingly he would make at times running comments on the actual text, thus forcing the student to become familiar with the work itself ; and, where necessary, he would add critical notes. His psychology naturally differed a great deal from the positive and experimental treatment characteristic of the modern schools, and it would be expected that he would give it a metaphysical setting after the manner of Stout and Ward, making it as it were a propædeutic to the theory of knowledge. His opening courses were chiefly based upon Sully, whose work lent itself to a trenchant discussion of associationism ; and his advanced students were introduced to the work of Hermann Lotze. But his main handling of the subject was reserved for an investigation of the psychological writings of Herbert Spencer, to which further reference will be made. Though Laurie himself did not set up a laboratory for experiments in psychology, he was not unmindful nor unappreciative of the valuable results of experimental psychology and pedagogy. Indeed, it was impossible for him under the circumstances to undertake the work of a specialist in all branches of psychology and philosophy, as he had no colleague during the whole of his long tenure of the chair. It is a tribute to his practical interest in the psychology of individual differences (including mental subnormality and abnormality) to record that he served on the British Medical Association (Australian Branch) Special Committee (1911-14) to ascertain the extent of mental deficiency in Australia.<sup>1</sup> The realm of the unconscious and pathological phenomena appealed to him greatly ; he was

<sup>1</sup> Australasian Medical Congress, 10th Session, Transactions, 1914, p. 709.

associated with psychical research investigations in Melbourne, and did not hold aloof from demands made upon him in the service of criminology and other interests allied with psychology and education.

Laurie's courses in ethics were mainly historical, comprising a more detailed analysis of the ethical systems of Plato, Aristotle, Butler, Green and Kant. Modern philosophy was represented by an expository treatment of the works of Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume and Kant. Hegelianism and later developments in philosophy were reserved for honours students. In metaphysics, or mental philosophy as he called it, he followed his favourite course from Hamilton through Mansel and the subjective idealists to Spencer. And he invariably found opportunity to introduce references to the outstanding thinkers of the Scottish schools from Hutcheson to Hamilton, for all of whom he had an unstinted predilection and for whose writings he manifested a warm-hearted national pride. His main published work on "Scottish Philosophy in Its National Development" (Maclehose, 1902) gave him an appropriate chance to extend himself in this field, and revealed an easy and graceful mode of expounding philosophical ideas in a historical setting. Taking his class work all in all, we may admit that he provided his students with an excellent introduction to the whole range of philosophy and psychology, together with a special treatment of the evolutionary systems which were so marked a feature of his own time.

No account of Henry Laurie's teaching would be complete without particular mention of his exceptionally fine handling of the doctrines of Herbert Spencer. So consummate was his treatment of the philosopher of Evolution that it is an unfortunate circumstance that his Australian contributions to this field of philosophical criticism should never have been published. Spencer even now rightly occupies more than the average measure of space in our histories of contemporary philosophy, and yet there is little or no extended examination of his works as a whole. Certainly his fundamental position was given a smashing blow in James Ward's "Naturalism and Agnosticism", and critical estimates have been published by Hudson, Royce, Bowne and Elliot. His interpreter, James Collier, has also placed modern students under his debt; and it would be a fitting circumstance, if to this Scottish New Zealander's appreciations, there were added the publication of Laurie's trenchant analysis of Spencer's theories given in courses of lectures at an Australian University.

Laurie offered what might be termed an *apologia* (if one were necessary) for his singling out of Herbert Spencer for special consideration. At the time these lectures were given the name of Spencer had a considerable vogue among young minds, and

at popular assemblies and outdoor meetings of political reformers it was customary to hear effulgent commendations of the great English systematizer, so much so that his genius appeared to be of almost superhuman greatness to immature youths. These facts were not unknown to the Scottish-Australian philosopher at the seat of learning in Melbourne. Many a thoughtful student entered Laurie's classes with an adoring attitude towards this cynosure of his philosophic firmament, and came out with a completely revised valuation of the permanence of the Spencerian philosophy.

"The philosophy of Spencer", Laurie says, "claims attention because an exaggerated importance is attached to it, and because it gives definite and determinate expression to one phase of agnosticism with which our age is afflicted. It is strange that English-speaking people should have so readily accepted a philosophy which accuses human reason of endless absurdities. The results we have aimed at are not wholly negative. We have learnt in our condemnation of the doctrine of the Unknowable that our intellect does not unnecessarily land in contradictions. The human mind is reasonable so far as its grasp extends, and any difficulty we may be unable to solve may not be unsolvable in the nature of things. The material universe stands open to our intelligence, and the supposition of order and uniformity, which we implicitly make in all our attempts to know, is confirmed by the experience of daily life and the discoveries of science. And if we extend to mind as a whole, not only the principle of uniformity, but also the category of purpose, we shall infer the existence, not of an unknowable power, but of a Supreme Reason which is known in part. This inference of a purpose is not weakened but greatly strengthened by evolution."

Laurie's lectures on Spencer dealt with the First Principles, the Principles of Psychology, and the Principles of Ethics, with references to his other works on biology and sociology; and he ended with a constructive presentation of his own doctrine of perception. In his criticism of Spencer he brought to bear his inheritance of the Scottish philosophy of common sense (in its refined form) and its faith in the veracity of consciousness, together with what was unassailable in the philosophy of Kant. Relying upon the principle of self-activity or purposive striving as a fundamental characteristic of mind, he revealed the inadequacy of Spencer's conception of its structure as the result of outward influences beating in on the organism and so building up the mental framework; and he deftly showed that Spencer, in his final analysis of the objective world, was reduced to borrowing from consciousness the conception of a power which he transferred beyond it, and which was at first taken by him for granted.

As Laurie interfused the greater portion of the fruition of his own thinking into his criticisms of the theories of Spencer and other philosophers as they came up for consideration, and as we are here more directly concerned with his own philosophical bearings, I shall endeavour to disentangle its directive features and reset them, preserving as far as possible his own words which were originally strewn over several courses of lectures.

*Theory of Knowledge : Necessities of Thought.*—Laurie's own position in philosophy may be classed with the idealistic schools. He drew much from Kant, the fountain-head of modern idealism, and evinced in some measure affinities with the teachings of the neo-Kantians, Green and Caird ; but the main line of his thought ran close alongside that of the Scottish thinkers, Campbell Fraser, S. S. Laurie, and Pringle-Pattison. He also drank deeply of the wells of inspiration that sprang from the master minds of Greece, and their ethical teachings were interwoven with his own outlook on modern life. But he was so catholic-minded that his sympathies extended beyond his own immediate associations, and released what was good in things erroneous (as Spencer strove to do) in an endeavour to set forth the best in schools of thought that radically differed from his own.

Like his Scottish predecessors, he took his stand on the veracity of consciousness. To question the existence of consciousness was for him to question the impossible. Following Thomas Reid, he never swerved from his faith that there are necessary and universal elements in human knowledge. "There are fundamental principles of our intelligence which force assent in particular instances, even when they are not embodied in general propositions." Philosophy, as he repeatedly averred, must presuppose the veracity of consciousness. "There are certain primary convictions which we are unable to doubt ; and even an empirical philosophy must take it for granted that we are capable of knowing the facts as presented to us. Hamilton errs not in upholding the truthfulness of our faculties, but in admitting even the possibility of discrediting them by a disclosure of contradictions between their primary utterances. The most thoroughgoing scepticism can reach its conclusions only by the use of intelligence, and in professing to discredit it, is really relying on its aid. Thus in inquiring into the factors or data of consciousness, we are, from first to last, treating our intelligence as a means of arriving at truth. The range of scepticism is therefore necessarily confined to the *reductio ad absurdum* of some faulty system, not of truth itself or the human intellect. The veracity of consciousness stands on the strongest possible foundation." ("Scottish Philosophy", pp. 269-270).

In his attack on Spencer's doctrine that the necessities of our thought have been gradually evolved and built up through an ancestral inheritance, Laurie relied almost utterly upon his conviction that we must take for granted the veracity of consciousness in immediate knowledge. "Knowledge must begin with the primary necessity which inevitably attaches to it ; and it is obviously impossible to derive the necessities of thought from the repetition of experiences, if the very first experience is found to involve necessity. The simplest experience involves this necessity at least that the fact of experience is taken to be what it is and not what it is not. Thus it illustrates the logical laws of identity and contradiction. The judgment which the simplest cognition implies must be true or false, and this illustrates the law of excluded middle. These logical necessities attach to all cognitive experience from the very first. An experience supposed to violate them cannot be an experience in the ordinary sense of the word.

... Finding this law [of non-contradiction] illustrated in every concrete cognition, we can proceed to formulate it, but the form only described the experience which was there from the beginning. Unless the logical laws are held to be absolutely true and binding on all intelligence, you have not got a single fact of experience to start with." There is no explanation of how these necessities of thought come to be. They are inexplicable in terms other than themselves ; but they are not necessarily unintelligible. Other necessities of knowledge are, for example, the space-time relation, causality, the relations between subject and object, substance and qualities, and so forth.

Laurie is all the time insistent that we must trust our intelligence. It knows directly its own experiences, and it can only know these experiences as under relations. Take away the relations and there is nothing. In other words, we know our own experiences or mental states as they are ; we cannot condemn them, he says, for being what they are not and cannot be. And, further, we can only know things as under the relations in which they are presented. Things cut off from relations cannot be known ; indeed we have no right to say that things cut off from relations exist. Relations imply intelligence, and the world of facts to which our judgments correspond must be a world not divorced from or in antithesis to intelligence, but at least including it. The relations of which our judgments are cognizant must include mental as well as material relations ; we form judgments about mental facts, about organic facts, and about extra-organic facts. And the accurate correspondence of our judgments with reality reveals whatever truth they possess.

For Laurie reality does not lie outside human experience, and accordingly the task of philosophy is concerned with the world which we know and all that it implies. An idealism that denies external reality is no true idealism. The experience of the real is admitted. What the idealist wants to know is the nature and meaning of reality ; and as to its nature and meaning there may be and is a great variety of opinions. No one in his senses doubts the existence of material objects. What brings about endless trouble is the confusion of material existence with the assertion of the existence of a material reality independent of mind. We cannot be conscious of something which is out of consciousness, and if we are conscious of anything, we know somewhat of it. This fact is a necessity of knowledge, and to assert its independence of the relations under which it is experienced as an object of consciousness is to assert nothing. We are not aware of anything to which consciousness does not testify. In like manner we know mental facts as distinct from physical facts or processes. We may speak of mental processes as internal and of physical processes as external ; but neither internality nor externality is applicable to mental processes as such. They are entirely different from the physical. They are not co-ordinate, to use Mitchell's words with which Laurie agrees ; and " their correlation does not mean identity of nature".

In his presidential address on "Materialism" to the Mental Science Section of the Australasian Association for the Advancement of Science, Laurie again emphasized his fundamental position. "If matter be understood in the usual sense, as consisting of things like those which we see and touch and handle, it may be asked if we have any right to assert its existence, save in relation to mind. So far I have followed the customary usage in speaking of mind and matter as different orders of facts ; and undoubtedly there must be a difference between such facts as perception or memory and any material changes within or without the bodily organism. But a deeper analysis, drawn from the theory of knowledge, may convince us that the material world is meaningless apart from mind, and can be known only in relation to sentience and thought. We speak of the sensible qualities of material things, as color, taste, odor, or resistance ; but it is the mind which is sentient, and to ascribe such qualities to material things is devoid of meaning, unless with reference to the truth that the mind can and does experience such sensations. Again, it is through the combining activity of intelligence, in accordance with the principle of uniformity, that we build up our percepts, blending presentative and representative elements and becoming aware of material objects in space. Without this mental construction we should be conscious only of fleeting sensations,

and the distinction between mental and material facts would be impossible. And further, in the very fact of perception, material things become objects for a subject or knowing mind. We may indeed speak of matter in abstraction from mind ; but it is a common fallacy to suppose that things which may be spoken and thought of separately have therefore a separate existence. For us, at least, matter has no existence except as related to mind, and we have no right to represent matter as an independent reality of which our minds are merely the effects."

Laurie insists that the synthetic unity of mind is a factor that we cannot dispense with in our explanations of experience. The unity of consciousness is presupposed in any combination of states of consciousness ; indeed, we cannot separate these states from the subject to which they are presented or whose activity they manifest. Sensations as present to consciousness have no existence apart from the mind which feels them. In itself the sensation is an abstraction. Sensations and ideas cannot then precede the intelligence which knows them, though they may be discerned and analysed ; but they are not separate elements of experience. We certainly distinguish them from the neural conditions which make our own experience of them possible ; but we experience them directly and their conditions indirectly. And because we discover by other means that the physical conditions of sensations are complex, it does not follow that sensations themselves are composite.

We have, says Laurie, in sentience an original fact of mental nature ; but this does not mean that consciousness can be confined to sensations as such. In immediate sense experience there is a direct reference to the object. These features in sensory experience may be discerned by analysis, but they are not directly experienced as separate facts. And it is important to remember in explaining perception that it is the mind that is sentient and not the material object. In perceptual experience, then, we find that Laurie unravels necessities of knowledge that are not explicable in terms other than themselves. We may present, for example, an analysis of the sensations that are essential to our perception of objects as occupying space, but the spatial relation as manifest in material existence is not the result of these sense impressions but rather conditions them. It must be accepted as an elemental fact in experience. "Thus the human mind in addition to its capacity of sentience possesses the power of discerning spatial relations on the stimulus of sensations." Here is an ultimate fact. We do not solve the difficulty by driving it back along the course of ancestral evolution. If our distant progenitors had the experiences of space relations which have been accumulated and handed down to posterity, they must have had the power of discovering space. If they possessed muscular and other

sensations only, then the knowledge of space relations has not yet made its appearance. It is through this knowledge of space relations that the material world is what it is for us—a world occupying space as well as yielding to or resisting our energies. We do not explain space by resolving it into simpler factors."

Thus, he continues, we cannot admit that perceptions are built up of sensations merely, for if so we could not refer to the qualities of material objects. Indeed no one is content with the affirmation that in immediate experience we know sensations only: there is ever the attempt to get beyond them. It should be made clear that "in distinguishing between sensations as experienced by us and unknown conditions by which (according to realists) we suppose them to be caused, we are no longer analysing things as we sense them. Our only excuse for thus attempting to transcend consciousness is that we already know bodies as occupying space. But, after all, a body which is merely described as occupying space is not the concrete body that we know. The concrete body is clothed upon by other qualities which are known to us. We know it, *e.g.*, as resisting."

In the relation between an object and its qualities there is also exemplified another necessity of knowledge. "The principle of material substance may be used", Laurie says, "to express the indisputable fact that we refer qualities to objects and regard these objects as other than ourselves. . . . We can never know a thing save as possessing qualities, and we can never know qualities save as qualities of something. This necessity of knowledge honestly recognized saves us from resolving all material objects into states of mind. But forsaking the concrete fact we are apt to distinguish between a thing and its qualities, as if they were separate realities. We know the qualities, but we go on to ask what is the substance to which the qualities are ascribed. And the question may appear to be a puzzling one, if we seek to know the substance apart from the attributes. But the puzzle is made by ourselves. We can only answer this question by stating the characteristics of substance, and thus it is seen to be absurd to inquire into the nature of substance apart from its qualities. They must be such and such. Knowledge of qualities is the means and the only means by which we know substance. So far as we know the qualities of any substance, we know it; and our ignorance of a substance is in proportion to our ignorance of its qualities. . . . The antithesis between substance and attribute may represent to us, not the difference between two distinct realities,—the one known and the other unknown,—but the fact that we never succeed in knowing the whole of an individual object in its every part."

The principles of causation and the uniformity of nature are treated by Laurie in a similar manner. They are necessities of human knowledge and so cannot be empirically derived or proved. If we do not accept these and other principles of knowledge (already indicated) as underlying conditions of the possibility of our knowing the material world, and of differentiating the subject and object of experience, we are landed in a hopeless scepticism. Indeed we could not land anywhere, and we would have nothing to land with. And so any questions we may put to a supposed reality unrelated to mind are only verbally possible. "We delude ourselves", as Laurie says, "if we imagine that we can picture to ourselves a state of things in which matter alone exists, followed by another state in which mind has emerged as the effect of matter. A material world can be known and imagined only as related to sentience and thought." We may thus take, as he puts it, from the realist that the material world is something other than our finite minds which know it; and from the idealist the conviction that we can know nothing about the world which is unrelated to mind. From a theory of perception it is impossible to exclude mind.

Following the lead of these thoughts, Laurie ends his discussion on the philosophy of perception with a statement in which he again emphasizes his faith in the human mind. "If no satisfactory theory of the universe can dispense with mind", he continues, "there is no reason why we should not avail ourselves of any suggestion which the human mind may offer. It is an important fact that we do and must regard the material universe, not only as other than ourselves, but as an ordered world, and seek so to construe it. . . . The analogy of our own experience would lead us to believe in a superior intelligence. . . . But, after all, any suggestion which the philosophy of perception may offer us will not lead us far. A unifying principle connecting a multiplicity of material facts will not satisfy the philosophical desire for explanation. We must seek to harmonize not only the phenomena of the material world, but the whole fabric of being as known to us, including mind and its activities. Here also we may proceed on the analogy of our experience. No higher clue is open to us; and it would be foolish to set aside all that is highest in our nature. The world may be contemplated not only in the light of knowledge and its necessities, but still further in the light of the purposes or ends which we set before ourselves. Thus we see in the course of evolution not a history of endless changes and variations, but a progress inspired by a purpose—the manifestations not of a force which is utterly inscrutable, but of an intelligence which is akin to ours, though infinitely superior to it in scope."

*Some Phases of Moral Experience.*—We have seen that in his theory of knowledge Laurie insists that there are necessities of thought which though intelligible are not explicable. In like manner, in his ethical theory he maintains that there are necessities of moral experience which are fundamental and so inexplicable ; and further, that moral experience as such cannot come out of nor be resolved into non-moral elements.

From various points of view Laurie indicates his inability to derive a fundamental moral concept from experiences that are distinctly non-moral. Over a wide and diversified range we cull a few characteristic expressions. The evolution of bodily functions, however far developed, will not make us moral beings. The mere fact that a purposive action produces pleasurable or painful results to ourselves or to others cannot reveal a moral element in it merely on that account. To inquire into the natural characteristics of action is not to unravel the genesis of a moral action. Even the extended range of calculating consequences is an intellectual rather than a moral property. A moral fact is not revealed even if the calculation of consequences is continued from age to age and so becomes a heritage ; and if we also grant that neural modifications are set up for the purpose, we have not a basis for moral action ; at bottom it is a mere utility. Desiring certain ends, we may realize on reflection that specified rules of conduct will enable us to gain them ; but these activities are not necessarily moral. From no merely natural end can a moral fact arise. The coerciveness of external sanctions is of no moral worth. Morality is not reached by dwelling either upon the end of happiness or on the means by which happiness (whether of self or others) may be secured. Morality leads no doubt to happiness, but a moral imperative cannot be based upon this.

By some the moral life is identified with self-consciousness as such, but Laurie does not agree with this. One may be self-conscious and yet possess no idea of ought. The beginnings of self-consciousness may be coincident with the beginnings of morality, but he cannot see that they are resolvable into one another. And yet there has been an evolution of morality ; growth in the moral life must be admitted. The moral consciousness of man is indebted for its full fruition to his growing intelligence, looking before and after and gauging consequences of events to himself and to others. Morality is concerned with the growth of intelligence in life. In the early dawn of the moral consciousness it is not reflectively different from social, political and religious controls, but mingling with them, it gives them a moral character ; and later, when the moral consciousness is distinguished, it harmonizes with these elements of our concrete life. If political control is divergent from morality, it must be set right by the moral consciousness at peril of national

bankruptcy. Social control gets its lasting strength only when it appeals as a moral force. Religion in its true sense cannot be divorced from morality ; and a religious belief that shocks the moral sense is doomed to perish in the end. Accordingly, in view of the moral infiltration of these controls, Laurie sees no reason why altruism of motives should be altogether denied in the earliest stages of man's development. Why should we deny it at the beginning of the race ? No turning or twisting of self-interest alone could have developed in man a disinterested regard for the welfare of others.

In no uncertain voice Laurie accepts the recognition and fulfilment of duty as an ultimate moral fact, and also lays down that the capacity to form a moral ideal is one that must be granted whether with explanation or none. If we cannot explain the conviction of duty, our only course is to accept it as inexplicable. How long, he says, are we to be encumbered with the prejudice that our explanation of all things including morality is to be given in the enumeration of phenomenal facts ? Empiricism itself has to assume something not obtained from sequent facts. And so he asserts that the idea of duty cannot be derived from fear of punishment or hope of reward ; that it cannot be manufactured by being added to natural desire, prudential considerations, and so forth. From things done we cannot arrive at the conception of any action as something which ought to be done. Laurie agrees with Kant that there is a moral imperative which is objectively valid, though he differs from him in the formulation of the law of duty. The concept of duty should not be held apart from the desires which it regulates.

In the fulfilment of duty a man may sacrifice his interests for the welfare of others, and in so doing promote his own moral well-being. There is no conflict of interests here. In virtue of his moral reason he rises above thoughts of his own interests. In social development there must be a gratuitous and spontaneous rendering of services. There may be at times a conflict between promptings of duty and self-interest, but such a conflict is different from that between desire for personal happiness and desire for happiness of others. The effort to attain the moral ideal brings near to a man not only the satisfaction of his own ends but also of the legitimate ends of others. His conviction of duty stands him in good stead in determining between his own ends and those of others ; and so there springs within a wealth of moral contentment that cannot harbour egoism and evilmindedness. Our highest satisfaction, as Laurie says, dwells apart from intemperance, revenge, and selfishness, and among its ministers are charity, fortitude, and justice.

He fully recognized that the contents of the moral ideal will differ for different races and ages ; but, underlying these variations in the moral objective, there is the essential agreement that a moral ideal exists, and that there is a course of conduct which it is right to pursue. We may distinguish between moral observances (the outward manifestations of conduct), which may vary with individuals, and morality itself, which is the determining authority of conduct. Moral observance, or the subjective stage, cannot remain as it is. Our very differences and disputes about right and truth show that there are a right and truth which are valid for every person, if he can only get at them. These disputes mean nothing, if each one is to judge for himself finally in terms of his own personal satisfactions. But moral decisions must relate to a moral order which is founded upon an objective law valid for every individual member. Moral authority is not alien to man, but resides within himself as sovereign and subject within this order. If a rule of right and wrong be recognized in the individual conscience, that is enough to constitute the authority. The very essence of moral duty is that it is imposed by the man upon himself.

If we attribute morality to the Divine being, we must represent him as acting, not arbitrarily, but from an inward rule of right ; and in so doing, we must presuppose the recognition of the distinction of right and wrong in us. This knowledge is implied in the statement that it is right to obey his commands. And we can only refer to the morality of the supreme being by means of analogy with what we recognize to be the standard of right and wrong in ourselves. Even the affirmation of the existence of the supreme being must proceed from a faith in what is highest and best in human reason, and in the intelligibility of the universe. "Our experience in its widest sense", says Laurie, "points to an intelligible system of things, and even ordinary thought proceeds on the supposition of a universal order which we are unable to exhaust in time and space. Our thought meets an order which is everywhere immanent in the universe. This order seems to be the manifestation, not of an unknowable power, but of an intelligence analogous to our own, though infinitely higher ; and in it we may trace, however imperfectly, an increasing purpose, on which the theory of evolution may throw light. . . ."

Toward the Christian religion Laurie adopted a sympathetic attitude. For him a non-moral religion was no religion at all ; apart from morality there was no standing for theology. But at the same time he realized that mere moral observance dissociated from religious thought could not save a civilization from destruction, if the disintegrating tendencies were already in evidence. The decadence of Rome and the failure of stoicism

and epicureanism were for Laurie a convincing demonstration of the futility of a *merely* moral teaching to mould the character of a people. There were indeed ennobling influences operative in these pre-christian ethical systems which acknowledged an increasing desire on man's part to seek his own good in that of others ; and these influences were strengthened and renewed in a far nobler form by Christian ethics. In Christianity the stoic apathy and the epicurean tranquillity were replaced by a beneficent compassion for sufferers and an eager desire to succour all who wandered from the paths of purity. And so it appeared to Laurie that this religious faith leavening the moral order was able to sway masses of men as mere morality of itself could not do. It emphasized the need of a love of humanity—a love that fulfilled the law. Equity was not disregarded nor was beneficence undiscriminated. All men were accepted as equal before God, and from this there followed a scrupulous regard for the rights of the individual and reverence for truth. These were features of the moral life which were wanting and in need of regeneration at the dawn of the Christian era. In attaching the utmost importance to character Christian ethics was linked with the moral teachings of the great thinkers of Greece, but its strength lay in the fact that morality cannot with security to itself sever its roots from religion. Laurie contrasted Aristotle's reliance on moral habit and training, appealing to the few who were privileged to put his high-minded teachings into effect, with Christianity appealing to the whole world in the enthusiasm of a religion, stressing the transforming power of faith and love and upholding a moral ideal (which was no abstraction) realized in the life of its founder.

Laurie usually concluded his lectures on Kantian ethics with a special discussion on immortality, which, in response to requests, was published by him under the title of "Some Thoughts on Immortality" (1901). In opening, he criticizes effectively the old view that grounds the argument for immortality on the indestructibility of the soul as a simple incorporeal substance. Interest in immortality concerns rather the survival of the self as a knowing or moral being. We do not enthuse over the endless continuance of an abstraction. He then approaches the problem from the standpoint of Kant's famous argument, but avoids its pitfalls. He stresses the fact that it must be possible for us to fulfil the law of duty, that is, to realize the moral aim, if not here, then hereafter. He is in accord with Kant in so far as he relies on the veracity of our nature ; and this attitude we have seen to be characteristic of Laurie throughout all his teachings. Kant failed, he says, "to recognize the organic connection in the framework of human nature between virtue and happiness, the law of duty enjoining the harmonious realization of our powers, while this,

so far as it is attained, necessarily issues in happiness". And Kant's insistence that the law of duty and natural inclinations are "intrinsically antagonistic" as ends occasions him incessant trouble and need not be sustained in connection with the argument for immortality. Accordingly Laurie works upon the more intimately human features of Kant's defence and links his own faith in immortality with man's aspirations, hopes and strivings. The question of ends, he maintains, must not be excluded. The aim of moral perfection is before man, and though he has not attained, he feels called on to strive ever to attain. "Believing then that his nature is not 'directed to vain imaginary ends', and that the world is to be read in the light, not only of what is, but also of what ought to be, may we not entertain, as probable, the hypothesis of a future life in which this harmony may be established? We have here no rigorous proof; but on the most important subjects which can engage our thoughts we must often be content with a probability admitting of no exact valuation."

Dealing with evil and sorrow, and man's efforts arising therefrom to make good, he goes on: "The burden of the mystery is lessened by the hypothesis that, in a future state of being, sorrow and evil may be found to have been stepping stones towards a higher life. We may fairly ask if the universe is so irrational that we are enjoined to pursue ideals which are never fulfilled as they should be, and our progress towards which is abruptly closed by death. Is the incompleteness of our present life to be forever fixed, with no possibility of completion in a world beyond?" This argument, he avers, does "not proceed from the mere desire for a future life, but from the legitimate effort to rationalize the universe in our thoughts from the point of view of morality". After a criticism of the theories of annihilation and materialism, Laurie insists that no argument, drawn from the relations of mind and body, can dispel the hope of immortality, and quotes the faith of the poets that man's incompleteness argues a future life. While we cannot dogmatize on this faith, we should where we can combat the dogmatism that denies it. "If this possibility be not kept open, we shall have lost something which may inspire our imagination and hopes, and our faith in the moral government of the world may falter or grow dim. . . . To one in the plenitude of life, life approves itself and gives promise of its continuance; the activities of the present are a pledge for those of the future; and the clearest vision of a life to come is rightly reserved for our highest moments." And on these heights we may reverently leave the memory of Henry Laurie.

*Concluding Remark.*—In lack of a systematic presentation of his philosophical outlook, it is not easy to determine exactly what is Laurie's position in relation to the thought of his time.

He seemed to be more anxious to give instruction in the philosophical theories of others, to interpret historical movements in philosophy, and to open the mind of the student to the ever-broadening expanses of thought than to set forth in systematic form his own speculative predilections. He was somewhat eclectic in his attitude to systems, bringing together what fitted in with his own homely way of viewing the world as affording material for self-expression. There were certainly found in him marked traces of the idealistic teachings of his master, Campbell Fraser, as well as unmistakable leanings towards what was fundamentally sound in the older Scottish philosophy, *viz.*, its insistent building upon the facts of experience. "My inclination", as Campbell Fraser records, "was to an English manner of treatment, so far as it keeps firm hold of what is given in concrete experience, under conditions of place and time, and refuses to pursue a unity that is possible for men only in a world of abstractions." This was Laurie's own starting-point, as is clear from the selections we have presented. We are foolish to doubt the trustworthiness of mind at the outset, or limit its range to what is confined within itself; for if we do, we either lose ourselves in scepticism or fly to a world of abstractions for security. Neither way appealed to Laurie. He held to the simple straight-out fact that human knowledge had a direct hold on reality. We must begin with what we actually experience. A reality does not lie outside human experience; a completely independent reality is not intelligible for man. Admitting this direct hold on the real to which consciousness bears immediate and irrefutable testimony, he analyses what it is that makes it possible. The fact that the mind itself is a living individual thing, growing in reaction to its own environment, enables us to find, by analysing its own manner of growth, just what it is and what is the nature of its organization. Thus Laurie sets forth the necessities of thought which are integral within experience and which make it what it is revealed to be. These are not the results of man's handiwork; they are what the mind through its self-activity discovers as operative within its own experience. The mind then has been so constructed to function in these ways, and it is not for man to attempt to alter it or to imagine it acting in any other way.

In these days when so many would banish consciousness from psychology and even mind from philosophy, it is interesting to record Laurie's faith in the reliability and integrity of the human consciousness. His view did not, of course, carry the implication that whatever the mind asserted was true in being merely asserted; it rather meant that only in what the mind revealed could we find what was true; and in no other way could we obtain an interpretation of the universe for the

purposes of human life. We need not add unnecessarily to the mystery of it. The universe is sufficiently mysterious as it is without making it more so by false or foolish abstractions. Because mind is essentially self-active and self-contemplative, because, as we say, we experience our self-activity as an original or originating act, it is not required of us to raise the question as to whether we can separate the experience of ourselves as active from the experience of what we are active about, and examine the two experiences as though they could be held apart, compared with one another, and afterwards re-united in a higher synthesis, and so forth. To revel in these questions is to revel in an orgy of abstractions, and thus become philosophically deranged. Nor need we go to the opposite extreme and insist that things have a "single way" of being, that minds and things are existences alongside of one another, and that what we know exists independently. What we know, Laurie would reply, we know in relation; and what relates and recognizes relations can only be the mind. Things are not co-ordinate with the mind, and the existences of things and events are not comparable with the existences of minds. Existence cannot mean the same thing or process for both minds and things. Nor can we even affirm the independence of what is real apart from the mind which is called on to assert the fact of the "independence", and which cannot do so out of nothing. There is an ultimate in experiencing which is beyond our thought to extrude from experience. And it is just as absurd to complain that we do not look forward directly in front of our backs as well as in front of our chests, or that we cannot get behind our eyes to see how they see, as to go on asking how the subject of experience can actually experience itself as experiencing apart from the object which it experiences, or how the object, which for us can only exist as related to the experiencing mind, can yet exist in some way or other outside of that relation. If we are to know at all, we must operate with the mind we have and not with the conception of another kind of mind which we have not. And we must further admit the marvellous power of an abstract-working intelligence and realize that an irrational use of it is the most dangerous of all weapons against the intelligibility of our thinking. To secure himself against this destruction a man must be prepared to abide by the limits of his creaturehood, even when he would dare to contemplate what is absolute and infinite. It was after this manner that Laurie dealt with what he called the necessities of thought. And the strength of his position lay in its very homeliness. This attitude of his did not mean that the plain man should be preferred to the man of reason, but it rather signified that in reasoning we must not act as though there were among men two orders of intelligence reacting

to reality in ways that were entirely incommensurable. A similar faith in the trustworthiness of the moral consciousness marked Laurie's treatment of the foundations of morality, and we found other signs of it in his affirmation of God's presence in the universe and of the hope of immortality. The simplicity of his own life was an eloquent vindication of his reasoned beliefs, and in him the man and the philosopher were inextricably blended.

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APPENDIX : SELECT LIST OF AUSTRALIAN PUBLICATIONS IN PHILOSOPHY AND PSYCHOLOGY.

*Philosophy.*

(NOTE.—All the undermentioned authors have contributed articles to philosophical journals and other publications. Prior to the *Australasian Journal of Psychology and Philosophy*, 1922 to date, numerous articles on Psychology and Philosophy appeared in the *Melbourne Review*, 1876-85, and the *Victorian Review*, Melbourne, 1879-86, the University magazines and other journals.)

Quaife, Barzillai : Intellectual Sciences : Outline lectures delivered chiefly at the Australian College, 1850-51. 2 vols. Sydney and Melbourne, 1872. Vol. 1 : Mental Philosophy or Psychology and Metaphysical Science. Vol. 2 : Moral Philosophy and Logic.

Pearson, A. N. : Search for Knowledge and Other Papers. 8vo. Melbourne, 1889.

Laurie, Henry : Some Thoughts on Immortality : A lecture. Melbourne, 1901.

Scottish Philosophy in Its National Development. Glasgow, 1902.

Plato in English Literature : A lecture. Melbourne, 1921.

Gibson, W. R. Boyce : Problem of Freedom in Its Relation to Psychology in Sturt's Personal Idealism. London, 1902.

Philosophical Introduction to Ethics. 1904.

Rudolf Eucken's Philosophy of Life. 1906. 2nd ed., 1907.

Problem of Logic ; with co-operation of A. Klein. 1908.

God With Us : A study in religious idealism. 1909.

Smyth, John : Truth and Reality, with special reference to Religion. Edinburgh, 1901.

Syme, David : The Soul : A study and an argument. London, 1903.

Stewart, J. McKellar : Critical Exposition of Bergson's Philosophy. London, 1911.

Merrington, E. N. : Possibility of a Science of Casuistry. Sydney : Angus and Robertson, 1902.

Problem of Personality : Critical and constructive study in the light of recent thought. London, 1916.

Miller, E. Morris : Kant's Doctrine of Freedom. Melbourne, 1913.

Basis of Freedom : A study of Kant's theory. (Monograph 3 ; Australasian Association of Psychology and Philosophy.) Sydney, 1924.

Moral Law and the Highest Good : A study of Kant's doctrine of the highest good. Melbourne, 1928.

Brazier, A. W. : Terms and Grammar of Creation : An investigation into the actual terms and the actual grammar of existence and the experience of existence. Privately printed, Melbourne, 1919.

Gunn, J. Alexander : Bergson and His Philosophy. London, 1920.

Modern French Philosophy : Study of the development since Comte. London, 1922.

Social Policy: Inaugural lecture. Melbourne, 1923.  
 Benedict Spinoza. Melbourne, 1925.  
 Livelihood. Melbourne, 1927.  
 The Problem of Time. London, 1929.  
 Anderson, Francis: Liberty, Equality and Fraternity. (Monograph 1; Australasian Association of Psychology and Philosophy.) Sydney, 1922.  
 Christian Liberty and Ecclesiastical Union. Sydney, 1923.  
 Evans, Joseph: Theistic Monism. London, 1928.

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*Psychology.*

(NOTE.—The undermentioned authors have contributed articles to psychological journals and other publications.)

Mitchell, Sir William: Structure and the Growth of the Mind. London, 1907.  
 Nature and Feeling. (Macrossan Lectures, Queensland University.) Adelaide, 1929.  
 Lovell, H. Tasman: Der Utilitarismus in der Erziehung: Inaugural dissertation. Jena, 1909.  
 Springs of Human Action. (Records of Education Society, Sydney.) 1914.  
 Dreams. (Monograph 2; Australasian Association of Psychology and Philosophy.) Sydney, 1923.  
 Fletcher, M. Scott: Psychology of the New Testament. London, 2nd ed., 1912.  
 Hellenism and Judaism during the Maccabean Period. Sydney, 1926.  
 Muscio, Bernard: Lectures on Industrial Psychology. Sydney, 1916.  
*Editor of Lectures on Industrial Administration.* London, 1920.  
 Vocational Guidance: A review of the literature. (Industrial Fatigue Board Report, No. 12.) 1921.  
 Psycho-physiological Capacities required by the Hand-Compositor. (*Ibid.*, No. 16.) 1922.  
 Berry, R. J. A., and Porteus, S. D.: Intelligence and Social Valuation. Vineland, 1920.  
 Berry, R. J. A.: Modern Psychology: Stewart lectures. Melbourne, 1922.  
 Brain and Mind; or the Nervous System of Man. New York, 1928.  
 Martin, A. H.: Types of Voluntary Choice. (Archives of Psychology.) New York, 1922.  
 Phillips, G. E.: Measurement of General Ability: Australian revision and extension of the Binet-Simon scale. Sydney, 1924.  
 McQueen, E. Neil: Distribution of Attention. (Monograph, British Journal of Psychology.) London, 1925.  
 Miller, E. Morris: Brain Capacity and Intelligence. (Monograph 4; Australasian Association of Psychology and Philosophy.) Sydney, 1926.  
 Cunningham, K. S.: Measurement of Early Levels of Intelligence. New York, 1927.  
 Garnett, A. Campbell: Instinct and Personality. London, 1928.  
 Mackie, A., and Cole, P. R.: Syllabus of Educational Psychology. (Records of Education Society, Sydney.) Sydney, 1928.  
 McRae, C. R.: Psychology and Education. Sydney, 1929.

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## PSYCHOLOGY LITERATURE AND HUMAN NATURE.<sup>1</sup>

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HUMAN nature, which is the subject matter of Psychology, is, of course, also the main concern of literature, but the two part company in their treatment. Broadly, the attitude of literature is intuitive and dramatic, of Psychology analytic and descriptive. While literature says look at yourself, Psychology strives to realize the know yourself of Socrates. Drama must always be more immediately interesting than analysis, but, if our aim is to understand human nature, the more ultimate interest must rest with psychology. Divinely illuminating as great literature is for all of us, one might spend a lifetime in its study and at the end have little more intimate knowledge of one's own nature than at the beginning. The intuitive insight of the great masters of literature often throws on human nature a searching light that is beyond the power of the mere psychologist, but it is always either by way of some delphic utterance or, more commonly, by a dramatic picture of man in action that still leaves us in the dark with regard to the inner mechanism of human nature, and not by way of that analysis by means of which alone we can reach truth, though it can never sum up truth. The utterances of literature often present us with profound truths about our nature, but, because offered without explanation of psychological analysis, they often awaken doubt as to their entire truth, and we are sometimes driven to ask whether they are true, and, if so, in what sense. Thus is it true, as we are often told, that human nature never changes, and, if so, how must we understand this dictum? Do the many aphorisms as regards the unchangeability of human character represent the whole truth? Is it true that "no man can climb out of his own character"? Again, when we come to dramatic literature, we find that the master-stroke of utterance, the unforgettable phrase by which the supreme artist brings out for us the real heart of some emotion, action or phase of character, still awaits the slower pen of the psychologist to bring out its full significance. The heart-break

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<sup>1</sup> Presidential Address delivered before the Canterbury Local Branch of the Australasian Association of Psychology and Philosophy on April 16, 1929.

of overwhelming grief Shakespeare depicts for us in the cry of Lear, "Pray you, undo this button," and this brings home to us the very heart of grief in such a way that, when we read the words, we may feel the very throbbing of grief in our throats. This is, of course, impossible for the psychologist, but it remains true that it is only through the analytic investigation of psychology that we can fully understand the character of grief as an emotion, its place in the gamut of human emotions, its exact quality as differing from sorrow, and so on.

Had he not resembled  
My father as he slept I had done 't,

cries Lady Macbeth, whose hand has been stayed at the last moment when about to murder the old king, and we at once recognize the truth of that cry—but for its full significance we must go to the psychology of crime. Whether a crime is done or not depends often on the relative strength at the moment of feeling or of some association of ideas: a little more feeling and the deed is done; a little more memory or imagination and the hand is stayed. The pages of dramatic literature are strewn with such lines, but, however arresting and illuminating, literature is still objective in its outlook, and its utterances await, for their full significance, the subjective findings of the psychologist. This objective attitude of drama and fiction is indeed one of their chief charms, because man is naturally objective in his outlook and prefers to entertain himself with the sufferings and enjoyments of others to brooding over the mechanism of his own nature.

The whole matter then amounts to this. We rise from the perusal of the pages of literature with knowledge, indeed, of the heights and depths, the wisdom and ineptitude, the majesty and buffoonery, the essential goodness and the amazing criminality of man, but in a state of bewildered confusion as to how one little and brief creature can be capable of all this. Psychology alone can attempt to remove this bewilderment from our minds, and if psychology here seems to promise more than it can fulfil, of what science is this not true? The subject matter of psychology is one of peculiar complexity and difficulty, but patient investigation in many directions has already thrown a light on many facts of our nature that were formerly wrapped in mystery. It is sometimes objected that the attempt to discover the springs of human activities is futile, because these are legion. But such an objection has little weight. The shades of colour are infinite, but can all be explained in terms of a few primary differences, and so it may be with the springs of human activity. We stand aghast before the spectacle of the diversity of human action, but if it is true that human nature is always the same, then we may ask what are the

fundamental elements of that sameness. And, these being given, we stand upon the only vantage ground from which it is possible to trace the infinite diversities of man's action. It will be the aim then of the present paper to explain human nature, in so far as that can be done, in terms of one leading principle, the principle of feeling, and to exhibit at the same time by comparison the two methods, of psychology and of literature, of acknowledging this fact, the cold discerning analysis of psychology, and the haphazard, loose, confused, yet illuminative, dramatic insight of literature.

The most outstanding fact of human nature is that it is feeling-controlled. It is, indeed, almost a commonplace that the secret of human nature is to be found in feeling. Feeling, like a hidden flame, lies behind all man's thoughts and activities. "Great thoughts", we have been told, "spring from the heart", and the images of our imaginations are what they are through feeling. Whether we act from impulse or from what is called reason, our actions spring from feeling. It is always feeling that betrays human nature.

Action is transitory, a step, a blow,  
The movement of a muscle—this way or that—  
'Tis done, and in the after vacancy,  
We wonder at ourselves like things surprised.

The history of human crime shows clearly how feeling dazzles and beclouds the mind of the criminal, and the most dreadful and least understandable atrocities of action usually find their explanation in a disordered or abnormal condition of the emotional life. Whenever there is a strife in our nature, it is fundamentally a strife between two feelings, and when the moralist speaks of a strife between reason and desire or reason and passion, what is denoted is that feelings having rational elements in them are at war with the more turbulent, irrational elements in our nature. If you would explain man's activities, point to feelings.

(This paper must confine itself to the normal life of consciousness, but it may be here pointed out that, if there is one thing certain amid all the uncertainties and obscurities of Psycho-Analysis, it is that repression of feeling is the source of those ills which that pseudo-science investigates.)

If we turn to the pages of literature to find what recognition is there made of this fact, we find that literature is content to speak of the "passions" of men, as if in that one word lay the explanation of all those activities that flow from strong feeling. But, of course, the passions are of various and even opposite kinds, and the very essence of the matter, in striving to reduce human nature to order, is to give to them their proper value and ascendancy. To speak of anger and hate as alike passions is to confuse two different kinds of thing, and the

confusion is carried still further when two such disparate things as the appetite of sex and the love of one's country are placed under the one category. (One result of this haphazard dealing with the passions in literature, where passions are apparently all placed on the same level, is that, in times of decadence, the most obvious and clamant of the passions is apt to be raised on a pedestal and worshipped as the passion *par excellence* of human nature. One cannot read much modern fiction without becoming aware that sex there has been placed in that bad pre-eminence.)

What the passions have in common is, of course, the strong feeling element in them, but the cardinal point is, of what kind and value is that feeling element in each. Psychology, then, in its attempt to explain personality and character, must first seize upon this element of feeling and reduce it to order. We shall be in a position to explain man's activities when we have reduced to order his feelings, and the paths along which we must go to reach the secret shrine of personality must be the paths of feeling. This is not to deny the ultimate place of will in our nature: when we have said all that is to be said about the part played by feeling, will remains the ultimate and inexplicable secret of our being: all that is meant is that, in so far as we can explain the will, the explanation must be in terms of feeling.

When, however, it is said that it is in feeling that we find the actuating principle of human nature, it must be clearly understood what is meant by this. Feeling in itself, feeling in general, is of course nothing, an abstraction. There is no feeling in and for itself apart from the other aspects of mind, cognition and conation. To take pleasure as the most obvious form of feeling, there is no pleasure in general, but only pleasure as an aspect of a total mental state, pleasure therefore that gets its quality as part of the whole to which it belongs, a fact that the Hedonist in morals has always failed to see. Thus the pleasure of a good meal, the pleasure of hearing a sonata of Beethoven, and the pleasure of beneficence are obviously three very different kinds of pleasure, because the feeling element in each belongs to a different total state. For the purpose of description and explanation we must abstract from such a total state its aspects of cognition, feeling and conation, but none of these can in itself claim acutality. When the psychologist speaks of a cognitive, a feeling, or a conative state, he merely means that in the complete state of the moment one of these elements is predominant. Thus when "a feeling" is spoken of, what is denoted is a state in which the feeling element is predominant. Feeling, then, exists only as one element in a complex whole. When, therefore, feeling is spoken of as the actuating principle of our nature, what is meant is

that every concrete state, whatever element of cognition, feeling or conation may predominate in it, has its claim upon us and value for us in terms of the feeling element within it. It is this feeling element, infinitely various in character because taking its complexion from the total state to which it belongs, that is primary in human life in the sense that it is most native to us and has the most fundamental claim upon us.

Any experience, then, has value *for us* in terms of feeling. But, if we now ask what determines the absolute value of this feeling itself, that is to say, what worth it has as feeling, this very important fact emerges. The worth of any feeling always depends on the cognitive element in the total experience to which it belongs, that is to say, on the ideational element present whether as sensation, percept, image, idea or system of ideas. Thus the feeling that lays its claim upon us varies in worth through all degrees. It may be feeling attaching to mere sensation or feeling attaching to one of our highest ideals. One pleasure is higher than another only because belonging to an experience of greater ideational value, and emotions are lower or higher in accordance with the ideational elements within them. The worth of the feeling element in one of the great sentiments is obviously as far above the feeling element of an appetite as the idea, for example, of beauty or truth in the former is superior to the blind cognitive element of the latter.

If we seek now to connect this fact with human activity, it is necessary to start from the Impulse. The immediate cause of action is found in Impulse, either in itself blind, as in the impulse of hunger or anger, or impulse controlled by an idea of end, as in desire for some sweetmeat, or for revenge, or the realization of some ambition. Now impulse is always rooted in feeling, and, to account for the impulses from which men act, we must therefore go back to the feelings behind them. If we do this, we find that there are three main orders of feeling value behind human impulse. These are the Appetites, the Emotions and the Sentiments.

Before looking at these and their differences we must notice the general law of evolution governing them. The richer the ideation to which feeling becomes attached, the less its intensity and the greater its depth, width and richness of character. The same law naturally holds good of the relation between impulse and ideation. Thus the feeling and impulse of anger are in themselves more intense than the like elements involved in reverence or the love of truth, but how much narrower and poorer in quality. This increase in range, depth and delicacy of feeling through its relation to ideation is a fact of great significance as regards human personality. Man becomes the most emotional of the animals, as Shand in his "Foundations

of Character" informs us, because of his great range of ideas. Through the memory, imagination and thought of man, the primary emotions that he has in common with the animals give rise to a great number of new and complex forms of emotion. Thus man not only feels anger, fear, disgust and curiosity, and the other primary emotions, but all manner of derivatives from these that can arise only through ideas and their connections. He feels, to mention only a few of the complex emotions, scorn, contempt, loathing and horror, admiration, reverence and awe, sympathy, pity and gratitude, jealousy, envy, rancour and chagrin, hope, confidence, anxiety, despondency, regret, despair and remorse, joy and sorrow and grief. It would be a matter of impossibility to enumerate all the qualities, intensities, shades and nuances of emotion of which man is capable. If we add to these man's possible loves and hates, we begin to see why man is a creature of passion. And from multiple and various passion springs multiple and various action, and it appears that the dramatist will never lack material.

If we now attempt to draw up a classification of the chief springs of human impulse and therefore of human activity, we get :

1. The Appetites.

- (a) The Special Appetites : Hunger, Thirst and Sex.
- (b) The General Appetites :
  - (1) The General Appetite for Pleasure.
  - (2) The General Appetite for Excitement.

2. The Emotions.

- (a) Those emotions which we have by way of nature, as the older writers might have said : the Primary Emotions.
- (b) Those emotions that wait on the development of ideation, formed by compounding in various degrees the Primary Emotions : the Compound Emotions.
- (c) Those emotions that depend on the life of Desire that evolves through the life of ideation : the Derived Emotions.

3. The Sentiments in their varying degrees of width and abstractness.

These make up the various forms of passion that govern human nature. We must then examine the relations existing between these forms, because it is only in the light of the order of subordination among them that we can read order into human nature and begin to understand personality and character.

(It may seem strange to those who are acquainted with the pages of much current psychological and educational

literature that no mention is made in the classification here given of the Instincts of human nature. But, as I have attempted to show in another place, nothing is to be gained in discussing human personality and character by the use of this term Instinct. All that is supposed to be explained in terms of instinct can be equally well explained in terms of Emotion and Appetite. With McDougall, to whose use of the word instinct in this connection all that mass of literature about instinct in human nature is attributable, the word instinct is simply a bad name for Emotion. Bad because, besides denoting the functioning of emotion, it ascribes the emotion to a disposition or structure behind it, supposed to be inherited, namely, the Instinct. But this hypothesis of an instinct behind the emotion seems to have no evidence in its favour, and is not needed for explanation. McDougall's instincts of pugnacity and escape are simply the emotions of anger and fear.)

The Special Appetites of Hunger, Thirst and Sex form a more or less self-contained world of their own : they have a special biological and therefore psychological significance, and ought not to be classed, as the Instinct Psychologists class them, with the primary emotions such as anger and fear. Psychologically, an appetite differs from an emotion (1) in having the conative element within it (the impulse) predominant over the feeling element, (2) in being dependent on a state of the body-mind organism for its excitement, and (3) in its periodicity. An appetite has been well defined as a "periodic, organically conditioned craving." Here we have three important differences (though these are no doubt interconnected) from the primary emotion. There is a massive urge in the impulse of an appetite like hunger or sex lacking in the impulse, however strong, of an emotion, but, more important than this, the appetite is aroused by an organic state itself, whereas an emotion waits on an external cause. The sight of a well-laid table will not excite hunger in me unless my body is in a certain condition, but anger will be aroused only by my environment. This difference is habitually slurred over by the Instinct Psychologist, who therefore overlooks the third characteristic of periodicity which brings out the essential difference in the functions of the appetites and emotions in human life. Because they are concerned with the maintenance of life itself, the appetites are constantly recurring factors in life, whereas the emotions are more or less sporadic incidents, some of them of such rare occurrence that a man may not experience them for years together. It is because of their close connection with life itself that these forms of feeling-impulse have their narrow intensity and have such a disturbing part to play in life. When they are denied they become ravaging monsters.

In times of extreme famine men become wild beasts, and will commit any crime for bread. There is no need to point out what a profoundly disturbing element Sex has been in human history: the psycho-analysts have already made too great play with this on its abnormal side. The impulse of sex has such an animal urgency that it may break through even the highest sentiments of life, and we may have, as McDougall points out, the catastrophe of two persons of the highest ideals suddenly caught away in the sweep of an imperious illicit passion. Sex has always been a peril to civilization, and civilization adds to the problem by increasing the glamour of the accessories of sex.

The special appetites and all other desires of our nature are modified by and, in a sense, grounded in a general appetite, the appetite towards pleasure. The older writers were right in insisting upon this as a spring of human activity: the mistake they made was to assert that it was the only spring, and to erect upon that basis the false theory of Psychological Hedonism, namely, that man can desire nothing but pleasure. But it is evidently just as false that man always desires pleasure, as it is true that there is in his nature a blind urge towards pleasure. This is so palpable in animal and man—you witness it in your dog every time you see him moving from place to place to get into the sun—that there is no need to insist upon it, and it is impossible to explain the activities of man without taking this principle of explanation with us. But it is not true that this is the only ultimate spring of action, and in revolt from this doctrine we have the modern hormic theory of McDougall, that the prime movers of human activity are what he calls the Instincts of pugnacity, flight, curiosity, etc., and that pleasure is never a mover of activity, but follows always on a successful impulse, the only function of pleasure or pain being the indirect one of modifying the instinctive impulse. This cannot be maintained. It is impossible to show that impulse never moves towards pleasure: in fact it might even be shown that even the indirect function attributed here to pleasure would be impossible without a primary impulse towards pleasure. Both of these extreme theories are false. As Drever points out, for any attempted explanation of human activity we need to take these two primary forces in interaction. Not only does the appetite for pleasure exercise a selective influence on the primary impulses, but further modifies them in two marked directions, in the formation of the acquired appetites, and in producing that tendency so strongly evinced in human nature to attach value to the pleasantness itself of the appetitive or emotional impulses instead of to their ends. Here we have that craving for amusement that has had such disruptive effects in human history in times of decadence,

as in ancient Rome, and, shall we say? in quite modern times.

Is there any other general appetite of our nature beyond the appetite for pleasure? I would hazard the suggestion that there is, that we cannot account for many things in human action, if we start merely from the appetite for pleasure, the special appetites and primary emotions as original forces. I would name this further general appetite the appetite for excitement. We find in human nature not only a tendency to prolong and intensify pleasure, to drink it to the dregs—so that it is this tendency which the moralist finds to be so harmful rather than the appetite for pleasure itself—but also a general abhorrence of a tedium in life, so that men seem to act upon the principle that anything, however silly, is better than nothing. There is, it seems, a universal tendency to forget self in excitement of some sort, which ordinary language recognizes in the phrase “love of excitement,” but which seems to be a true appetite springing from a condition of the mind-body organism and having the elements of craving and periodicity. This appetite supplements the special and acquired appetites, and is the source of things in human nature otherwise inexplicable. Dewey quotes Hazlitt as saying that the charm of a life of crime lies in its extraordinary excitement. How shall we account for the love men have for gambling in all its forms, carousals, running into unnecessary dangers, war, at least until it becomes too terrible to face? Certainly not in terms of mere pleasure or the indulging of any of the so-called instincts.

We come now to the next element in man's native equipment, the primary emotions. These emotions are primary because the simplest elements in our emotional life, man having these in common with the animals. An emotion differs from an appetite in two important characteristics. It is aroused by an external situation and not by a state of the organism, though such a state may sometimes predispose us towards an emotion, and the feeling element, generally much more complex than the feeling element in an appetite, is more predominant than the impulse attaching to it. These two factors are obvious in the characteristic primary emotions of anger and fear. The feeling element in these is massive and indefinitely complex, while the impulse element of attack or escape, though marked, is less prominent than the impulse of one of the special appetites. Psychologists are pretty well agreed as to the emotions to be regarded as primary. The principal emotions undoubtedly primary are anger, fear, disgust, curiosity, self-assertion, self-submission, and the tender emotion, that is, the feeling of the mother for its offspring that we see so universally and strongly evinced in the animal world. The importance of these primary emotions for man is seen in the fact that through the influence

of ideas and their interconnections, not only are they capable of being indefinitely intellectualized, but are the source of the rich, complex and varied emotional life of man. The range of that emotional life corresponds to the range of his life of ideation, as seen in the richness of his memory, imagination and thought processes, whereas the animal's emotions cling round the perceptual world and a very limited world of memory. But quite primitive man, at that era when ideas were beginning to stir in him, called into being as the most potent instrument in that fight for life in which he was engaged, would be endowed, one might conjecture, with just such a slender equipment as that constituted by the appetites and the primary emotions along with a few simple feeling dispositions little beyond what the higher animals are capable of. This native equipment forms the basis of what religion calls the natural man. The intuitive insight of literature has here forestalled the findings of psychology in the person of Caliban. Whatever else Shakespeare wished to portray in that "monster", he at least bodies out a creature endowed with the primary emotional and appetitive elements of man and nothing more. Caliban is controlled by fear only, fear of Prospero's cruel body pinches and of his God Setebos. He is driven by wild gusts of anger. He urges on Stephano to the murder of Prospero with the words :

There thou mayst brain him, or with a log  
Batter his skull, or paunch him with a stake,  
Or cut his wizard with thy knife.

The beauty of Miranda excites only his sex-appetite.

Thou didst seek to violate  
The honour of my child,  
says Prospero, and Caliban cries :

O ho, O ho, wouldst had been done.  
Thou didst prevent me: I had peopled else  
This isle with Calibans.

We find in him also the emotion of Subjection, awakened by his senses and appetites. Stephano pours wine down his throat, and he cries :

That's a brave god, and bears celestial liquour,  
I will kneel to him.

And again,  
I will kiss thy foot: I prithee be my god.

There seem to be but two points of redemption in Caliban's nature, his primitive gratitude to those who are kind to him, and his love of sweet sounds, the beginnings of an emotional disposition springing from the appetite for pleasure.

Of such stuff is the primary emotional equipment of man, containing within itself his potentialities for good or bad.

It is true that Caliban's is a nature

Which any print of goodness will not take  
Being capable of all ill,

but this is because Caliban is conceived as a creature without intellect, except such as is little removed from cunning. Imagine now a creature of Caliban's emotional equipment, but one capable of an ever-increasing development of ideas, and we have man, a being still "capable of all ill" indeed, but also capable of good. It is because in man the emotions can be transferred to ideas that there are opened up to him the possibilities of moral and cultural evolution. Ideas become a new source of emotion, and the life of ideas maintains, promotes and evolves the life of emotion, refining and ennobling it. Exactly, too, in this fact of the acquired power of ideas over emotion lies man's danger: ideas, making use of the emotions for their own ends, may succeed in making man merely the most cunning, treacherous and formidable of the animals. In man we have this paradox: we may intellectualize the brute.

You taught me language, and my profit on 't  
Is, I know how to curse,

says Caliban. In the animal the emotions are aroused by their appropriate objects, but in man, becoming attached to wrong ideas, they may become anarchic, disruptive forces. The intellect is a two-edged sword, and it would not be difficult to trace the process by which one of the primary emotions may, through the influence of ideas, become a devastating force in a man's life. How this is to be prevented by further feeling itself we have still to see.

The basis of personality is given in the primary emotions and appetites, and the differences between men found fundamentally in their differences of disposition, temperament and temper. Literature, of course, makes great play with these differences, but nothing more shows the haphazard knowledge we get of ourselves from the study of literature than the fact that, though our interest in fiction and the drama is found largely in the types of human nature they present to us, we rise from the study of its pages very little the wiser as to what these differences mean. Disposition is given in the sum total of the impulses of the primary emotions and appetites, and the difference between one disposition and another is found in the comparative preponderance of one or more of these impulses in a man. Thus an irascible or pugnacious disposition is one peculiarly prone to the impulse of anger, a timid or cautious disposition one prone to that of fear, etc. On the other hand, temperament is given in the sum total of a man's feeling reactions by way of the primary emotions and appetites. A man may

thus have a phlegmatic, or active, or sanguine, or gloomy temperament according as the situations calling out emotional reactions affect him. Temperament has a strong physical basis, and there are, of course, many temperaments, the traditional differences of language giving us only a few of the main types. Temper again is given in the way the impulses work in the individual. Thus the impulses may be quick to arise, when we get, for example, a man of hasty or impetuous temper ; they may, when they are set up, be fleeting or enduring in character, giving us the fickle or steadfast temper ; they may differ in their affectability as regards pleasure and pain, when we get the differences between hopeful and despondent, etc. Disposition, temperament and temper are then the enduring elements of personality, and no factors, of experience or teaching, can change or modify them, except in the slightest degree. A man's temperament will stay with him through life, and his temperament determines the direction and quality of his talents. In regard to these elements, then, it is true that no man can climb out of his own character. Schemes of education can here have nothing to say. I do not, of course, mean to affirm that disposition, temperament and temper cannot be controlled in terms of a man's will.

It is, then, through the influence of ideas and their connections that the primary emotions give rise to all the complexity of man's emotional life. The evolution of cognition is also the evolution of emotion, and that control that always comes through feeling extends and deepens in proportion as feeling is permeated with ideas. Now, the emotions, through this influence of ideas, evolve new forms in two ways—through Fusion, and through generating Desire, from which new groups of emotions spring. In the first case we get the Compound, sometimes called the Blended, Emotions ; in the second, the Derived Emotions.

That there is a law of fusion by which the secondary complex emotions are derived from the primary seems undoubted. It is in this way that such emotions as scorn, contempt, loathing, admiration, awe and reverence, and many others arise. Two of the primary emotions being aroused together, their feeling qualities fuse and give rise to a complex feeling having a quality of its own, not the sum of the two original qualities. Thus anger and disgust, being aroused together, give rise to scorn, an emotion of unique quality, and, if we add the primary emotion of self-assertion to the situation, we get the further complex of contempt. It is obvious here that it is the ideas involved that play the essential part in this evolution. Thus in the case of anger and disgust, it is clear that, since these are primary, they might be aroused together in the animal mind, but who could conceive of an animal feeling scorn ?

It takes a complex abstract idea to awaken scorn, and it is this ideational element that gives its quality to that emotion. The mere presentation of a person by way of perception might awaken anger and disgust, but for scorn we need some abstract idea of personality or conduct. The same thing is apparent with all the secondary emotions, contempt, loathing, gratitude, admiration, reverence, awe, envy, pride, etc. There is a sense in which, with McDougall, we may speak of reverence as issuing out of wonder, submission, fear and gratitude, but how could any blend of these emotions give us the unique emotional quality of reverence, but for the complexity of the ideational element involved in it? It is not meant, of course, that to explain the nature of that abstract ideational element would lead us further towards the understanding of the emotion itself, since in all the emotions the unique element that makes them is indescribable, but the ideational element always plays an essential part in the emotion as giving it its value among the emotions.

It is thus evident that we can arrange the secondary emotions in an ascending scale of complexity corresponding to the ideational element involved in them. We have in one direction scorn, contempt, loathing, horror, in another admiration, reverence, awe, and so on. The relation, then, of the secondary emotions to the primary makes it clear that the control in human nature of the emotions increases, both for good and ill, with the ideational element involved in them. Thus we may affirm that scorn, contempt and loathing have played a more disturbing part in human history than the more explosive and transitory anger, fear and disgust that have generated them, and that such emotions as gratitude, pity and reverence owe their power to the depth of the ideational element in them, and therefore, though of more temperate heat, have power to slowly burn out the baser element of the malicious emotions.

We come next to the Derived emotions, such as hope, anxiety, despair, regret, remorse, joy and sorrow. These are derived as arising from the impulses of the appetites and primary emotions whenever these are obstructed, and so give rise to Desire, involving a clear idea of the end that will satisfy, of an end having value for the self. Thus the emotion of fear, when its impulse of flight is obstructed, gives rise to a definite idea of the end of escape, and so may arouse either hope, anxiety or despair according to the degree in which the end is seen to be attainable. These emotions, therefore, depend on the prior presence of feeling in some form, and they are seen in their deepest complexity when arising from the desires of the sentiments, as in the case of joy and sorrow. The emotions

of desire, having an intimate connection with the self and what is dear to it, and taking us into the future and the past, have in them a peculiarly rich and complex ideational element, involving memory, imagination and thought in intense forms. If we take one of the palest and weakest of these emotions, regret, we may note how rich in ideation it is, the mind lingering in the past in terms of memory and imagination, the images and ideas involved tinged with a rich, though subdued and indefinable feeling element. Tennyson's well-known lines :

Tears, idle tears, I know not what they mean,  
Tears from the depths of some divine despair  
Rise in the heart and gather in the eyes  
In looking at the happy autumn fields  
And thinking of the days that are no more,

well bring out the rich glamour of a poetic regret. Remorse is one of the deepest of human emotions, having a biting element in it lacking in any other emotion, that makes it eat like an acid into our nature, an acid distilled from the rich darkness of the ideational element involved in it. Joy and sorrow owe their massive effect to the richness of the ideation behind them. The instance of these two emotions is interesting as showing how difficult a thing the analysis of ourselves is. They are the most obvious of our emotional experiences, but Psychology was long in doubt as to where they were to be placed. The older thinkers all placed joy and sorrow among the primary emotions, led to this probably by the popular use of these words to denote the intenser degrees of pleasure and distress. But to speak of the joy of a child in the presence of a new toy or its sorrow when uttering a cry of distress is to misuse the terms joy and sorrow, which should not be used with reference to the mere pleasure and pain of isolated impulses, but only to denote the fulfilment or denial of those deeper desires that spring from our strong sentiments. Thus we rightly speak of the joy of the lover who wins his beloved, or the sorrow of the mother who loses her son, or the joy of revenge within the sentiment of hatred. It is evident, therefore, that the derived emotions have more weight in consciousness than any of the primary or secondary emotions, however much such emotions as anger and fear may excel them in impetuosity. We have but to take despair and remorse, joy and sorrow, to see what this means. The emotions of desire are the intensive emotions ; joy and sorrow, remorse and despair, alike brood over their objects ; they linger in the mind in a way in which anger, curiosity, scorn and admiration do not. The phrases of literature bring this out. These emotions take possession of us : they shake us : one becomes ill with anxiety, the victim of despair, the prey to remorse : sorrow consumes us, and we

become delirious with joy. These emotions occupy a larger part of our nature than the primary and secondary emotions.

We have attempted, then, to show that the emotions, from the primary to the most complex forms of secondary and derived, form a kind of hierarchy in which we have an ascending scale of value in terms of the ideational element involved. There is no other way than this to determine the value, for good or ill, of the emotions as prompters of action. And, generally, one feeling can be higher than another only in terms of its ideational value. Reverence is higher than wonder because of the complexity of ideational framework, and the joy of the mother who sees her child snatched back from death is as much above mere intense pleasure as the full ideational content of her love, with its images of beauty and health and attendant ideas of her child's future success and happiness in life, is superior to the bare cognitive content of an appetite.

In the emotions, however, along with the appetites, we have still only the groundwork of personality. A creature whose promptings to action were found merely in appetite and emotion would still be a creature, as we say, of impulse, in his action tempestuous and incalculable. The emotional life in itself is an anarchy, and we have still to ask what shall keep order in this house of emotion itself. Sporadic emotion cannot evidently give us the grain of personality. A creature whose activities were prompted merely by the primary emotions and appetites would be a creature to flee from, but so also would one whose impulses sprang from any kind of sporadic emotion, however noble its uses might on occasion be. A creature prompted at times by pity or reverence would be a better creature than one prompted wholly by the lower forms of emotion, but he would still be a creature without that order in him which makes personality and character. In no transitory outburst of emotion, however noble that may be, is there power to control other emotion. In no emotion, or group of emotions, can a principle of order be found in our nature. That order can be found only in terms of a higher principle of feeling, in those highest feeling forms, the feeling dispositions that Psychology calls the Sentiments. By these feeling-controls alone can personality in man take shape ; they become the servants of man's will in subduing the emotional life to their uses ; they are "the units" of character. In these the emotions have now a centre of reference ; they form constellations round these new fixed stars, and are no longer like wandering comets or shooting stars in the firmament of the mind.

It is extraordinary how long Psychology itself took to discover the sentiments and their place in human nature. The loves and hates of man were by the earlier thinkers not distinguished from the emotions, were indeed by them put

among the primary emotions, and literature went no further in its analysis than to call them passions, ranking them on equal footing with anger, jealousy, remorse and sex. But, of course, our loves and hates are not emotions, but permanent dispositions of feeling, capable of exciting different emotions at different times. Not even sexual love, which perhaps at once comes into the mind when we use the term love, is an emotion : the most ardent lover is not forever "breathing like a furnace" with his love, which is merely a more or less permanent disposition of feeling towards its object. And evidently friendship, patriotism, love of nature, love of truth, are feeling dispositions of the same kind. Psychology therefore defines a sentiment as a complex emotional disposition centring round ideas. In the animal mind a simple emotional disposition may centre round some perceptual situation, as when a dog forms a disposition of hate towards a boy who has constantly teased it, which breaks into anger whenever the boy is seen ; but in man such emotional dispositions become exceedingly complex things, ranging through his whole world of ideation. Sentiments may be simple or complex, individual or general, concrete or abstract, and all have importance as possible centres of order in human nature, but it is in the great abstract sentiments of value that we find the secret of human character.

In the sentiments then we have the highest feeling-control of our nature because in them the ideational element is at its maximum. The relation of the sentiments to the emotions and of the sentiments to one another well brings out the truth of the thesis from which we started : the control value of feeling increases with the range and depth of ideation involved. The love of home or of country is of more potency in our lives than any transitory outburst of emotion, and the love of humanity and the love of truth or goodness of more value than the love of home or country.

The sentiments, then, because of the richness of their ideational content, come to be the strongest element of feeling in our nature, the deep, controlling forces in a formed human nature, whether good or bad. The sentiments, unlike the transitory and more or less violent emotions, are deep-rooted and permanent, ramifying themselves through our nature, and sending their roots deeper and deeper into the bases of our being. The strength of a sentiment is found not in its violence, but in its depth and width, in the number of sources from which it is fed, in the extent of life over which it spreads. Custom does not stale it, but increases its force, and this because that force increases with the increase of the ideational element to which it attaches. A sentiment may thus become a "ruling passion," when it so comes to dominate our appetitive

and emotional nature as to be the source of our prevailing volitions.

The importance of the sentiments for human nature is seen in three main points: first, they are acquired, not native to us as the primary emotions are; second, they become permanent centres of the emotional life; and third, they transmute the emotions into higher forms. We must dwell on each of these points for a moment. That the sentiments are derived from experience is a matter of profound importance, because they represent that part of our nature that can be added on. We cannot add a cubit to our stature, but we can add more than a cubit to our nature through the influence of the sentiments on the emotions. Primary emotions and appetites constitute the warp of the cloth of personality and character, but sentiments the woof, and, though the warp be unchangeable or nearly so, the woof is in our own hands. Temperament and talent are things given, but the great sentiments can be added on, sown in the kindly receptive soil of youth. This is the secret of all cultural and moral education. This is the fact on which the reshaping of human nature, the regeneration of man depends. The right emotional dispositions can be taught. Youth must be taught to take pleasure in the right objects, Aristotle said long ago, and that after all is the secret of the whole matter. And, if we doubt sometimes how much the great sentiments may do for human nature, if we must allow that there are natures with a black speck in them from the start, we must remember that the sentiments are all we have, they are the only instruments of man's will. It is true that the appetites and emotions are so strong and insistent that they constantly break through the finest and most deep-rooted sentiments. The appetitive nature of many men is of such an urge that the most carefully cultivated sentiments of youth seem to have no restraining power on action, can awaken at best only repentance or remorse after the event. This is true, but for the moral regeneration of mankind we are not confined to the individual: heredity and environment play their part. Feeling and habit in the parents produce disposition in the children, and sentiments become crystallized in the forms and functions of society, reacting upon the individual. To allow that such moral progress as is attainable by man must be very slow and proceed through despairs and cataclysms is not to despair of moral progress.

A sentiment so acquired begins to play a part in the control of man's chaotic emotional life, because it becomes a new centre for the emotions. Thus the sentiment of friendship or patriotism may be the source of a whole range of emotions, as anger, fear, joy, sorrow, hope, anxiety, etc. The importance

of this for character is seen in the fact that every strong sentiment exercises thus a selective power over the emotions, developing those emotions and therefore those acts of will and qualities of character that these engender, and thereby at the same time shutting out from its sphere emotions, impulses and qualities of an opposite kind. It is obvious that friendship develops the kindly emotions and impulses at the expense of the malicious, and generates qualities of character such as fidelity, forbearance, candour, and so on. Thereupon habit begins to operate, and the qualities thus acquired tend to qualify the character as a whole. But the matter does not end here. These qualities, becoming inherent, starve all those sentiments that need opposite qualities, and foster all those sentiments that need the same kind of quality. Finally, every strongly developed sentiment tends to subdue the whole character to itself, to form a type of character of its own. Thus arises the ruling passion in a man that literature is so fond of portraying for us, the passion strong even to death, such as the passion of avarice, or of dominance over other men, or of cruelty, as in a Nero, or a Caligula. Fiction with its slower movement excels the drama in its power of delineating the competition of sentiment with sentiment in the human soul, and its gradual deterioration or rebuilding through the influence of some strong, slowly developing sentiment. To show this is the hardest task of literature, and therefore it has been so seldom done. George Eliot stands supreme here as our psychological novelist. In *Romola* she shows how in Tito Melèma the sentiment of self-love, shown at first in the form of merely choosing the more pleasant of two paths at the moment, slowly transforms an amiable and lovable young man into a scoundrel who sticks at nothing to bring about his own ends. Again, in that great idyll of *Silas Marner*, we are shown how in the poor sensitive heart of the weaver, who, wounded to death by the wrong of his friend, plies his trade in solitude among the strangers with whom he has found refuge, the love of the gold which he zealously saves, becomes at length the one passion of his soul, warping the whole man from what he was. In that work, too, we are shown, perhaps even more strikingly, how even a deep-rooted sentiment may be disrooted by another strong sentiment, how the growing love in *Silas Marner's* starved heart for the little child whose golden hair discovered by him spread out on the floor of his cottage that Christmas Eve he took to be his precious stolen gold returned to him, gradually displaces that other passion, and finally transforms *Silas* into a nobler man than that *Silas* who had been wronged by his friend. May we ever say, indeed, with regard to the inexplicable heart of man, that a passion, however deep-rooted, may not be supplanted by another? Religion, indeed, has put its trust in that.

Finally, the sentiments are the great alchemists of character: they transmute the emotions into higher forms. I have hitherto spoken as if the emotions were one thing, as if anger and fear, for example, never appeared except under their primary form, but it is clear that there are as many angers and fears as there are sentiments under which they may fall. The anger of the saint against wickedness is a very different thing from the anger of the boy who cannot get what he wants, and if the fear of the Lord, as Scripture has it, is the beginning of wisdom, this is not the same fear, as to its exact quality, as the fear of the child who cries in terror of the dark. There are many shades of the same emotion brought about by the transmuting power of the sentiment within whose system the emotion arises. Here again, it is evident that this transformation takes place through the distillation of ideas. The rich ideational content of one of the great sentiments has the power of trans-fusing the crude element of emotion into something finer and deeper; the emotion, to adapt the well-known lines:

Suffers a "psychic" change  
Into something rich and strange.

Thus, by patient analysis of human nature, Psychology attempts its explanation of "the passions" of literature, showing how these differ in the order of their ascendancy, and how certain primary emotional elements of our nature, through interrelations brought about by ideas and through the production of desire, generate all the higher forms of emotion we know, and become the source of these feeling dispositions which alone can bring order into human nature, and hence of those qualities of character by which we distinguish men. Thus it exhibits in their true inward significance the passions that enoble men or have rent the pages of man's history. Anger and fear, scorn and contempt, loathing and horror, envy and jealousy, hatred, rancour, chagrin, revenge, cruelty, these are all interrelated and represent the malicious side of human nature, one or other of the primary elements of anger and fear being the primary source from which the others in various ways spring. On the other side of the scale we have the tender emotion with its derivatives, sympathy, pity, compassion, gratitude, love, for ever waging an unequal warfare in human history with the malevolent factors of our nature. We must remember, however, that none of the primary elements is in itself bad, or the source of only bad derivatives. Thus anger enters with the tender emotion as a component of that love of justice that has been and must always be one of the main factors of human progress, and fear appears as an element in reverence and the religious sentiment. In relation to the sentiments themselves, it must be noted that there is not one

of the primary elements that may not be the source, either in itself or along with others, of some strong passion of human nature. Those passions, such as sex, avarice, and the love of power that the story of human nature has shown to consume so often the individual life, creating well-known types of literature, have all their roots in one of the primary emotions or appetites. Almost inevitably, the great disturbing passions and qualities of character, given favourable circumstances, issue out of the undue strength in a man's disposition of one of the native impulses. On the other hand, those great sentiments of value, the passions that centre round the great ends of life, that come under the trilogy of goodness, truth and beauty, though they, too, have points of attachment in our original nature, in the tender emotion, in self-subjection, in curiosity, and in the pleasure appetite itself, yet they come hardly to human nature, can be with difficulty added to our original stock, and, unless diligently nourished and cultivated from youth upwards, may sicken and die, consumed by the selfish and malicious elements of our nature.

One word more is necessary. In attempting to show that it is in terms of feeling-control alone that we can explain human nature, I have seemed all along to neglect the will. But this is only seemingly so, since I have spoken always of the sentiments as instruments of the will. When all has been said concerning the ordering of human nature in terms of the sentiments, we have still to ask what orders the sentiments themselves, what makes them stable, secure and persistent in relation to their ends, what determines finally that a sentiment shall assume control of our nature. If we are to become more than sentimentalists, the great sentiments must become ideals governing our conduct. A sentiment, however strong, is not an ideal because, in the first place, the feeling element in the sentiment predominates over the cognitive, whereas in an ideal the ideational element becomes more definitely recognized and systematized, and, in the second place, the will has assumed control, definitely identifying the personality with the end to which feeling attaches and so removing the precarious instability that still clings to the sentiment. A man of strong character is a man governed by ideals, and not merely by sentiments. The final word is thus left to the will. And, if you ask whence comes this will, this element in personality which determines that a sentiment shall become an ideal, the answer is that we do not know, and that here we come upon that secret of our nature that shall forever escape our deepest scrutiny.

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## THE FUNCTION OF INTELLECT.

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THE intellect is concerned with thinking or reasoning. But the academic view that reasoning is merely an intellectual process would exclude from consideration the driving and initiating force of human emotions and native impulses. The traditional account of reasoning tended to ignore the urgent aspect of the mind, and thereby to isolate the intellectual from the emotional and purposive processes. The effect of this isolation was to divorce reasoning from life, for life is lived in purposes that are emotionally coloured. Reasoning was thus made to appear abstract and indifferent, whereas in fact it is the insight which directs the forces of life towards the satisfaction of the needs of life. It is therefore a principle of guidance which is of the greatest significance to every individual. The purpose itself is urgent because it issues from some need, the need for food, for love, for pleasure, for power and self-aggrandizement, for self-preservation, for knowledge, for reputation, for righteousness, for immortality. Such needs may be overt or obscure, conscious or unconscious. The purpose may be subject to strong emotional pressure, and yet its meaning may not be revealed to one. It may be a blind impulse, or an enlightened end of action. While the purpose will supply the driving power, it is the intellect which grants to that purpose light and leading. For to think is to relate means to ends.

Perhaps it can be admitted, then, that purpose is the real spur to all fruitful thinking. The more richly endowed our purpose is with our own force and vigour, the more we want its realization, the more we shall call upon the intellect to bestir itself and find for us the means which will achieve our end. An example is the vigour of purpose evoked by the Great War. By that menace the elemental need of race-preservation was awakened. The intensity of purpose made such demands upon the nation's intellect that inventions and discoveries multiplied amazingly. That purpose, the will to win, was requiring numerous new and intricate means for its realization. Again, a boy may thrill to become an Antarctic explorer; the succeeding years may find his thinking and his reading devoted to the service of that yearning, until with manhood, his purpose becomes set and serious, and finally, his intellect being compelled to devise the means, the purpose becomes realized in fact. Any instance known to one of a strong and insistent purpose

will show how the means for its achievement ultimately came to be found. "Where there is a will there is a way." If the purpose be strong the means will usually be forthcoming. Conversely, where the purpose is weak, thinking is ineffectual and the means tend to remain unrevealed. A felt purpose rouses all our latent energy to mighty effort, whereas the lack of it leaves us panting and dejected failures. Education which aims at training the intellect without encouraging purposes neither understands life nor properly conceives its own task.

The conclusion is that, to reason at all, one must begin by wanting something: the first principle is that one must feel the need for doing what one does, wish for its realization with all one's heart. One must feel deeply in order to achieve, give generously of oneself in order to attain even legitimate satisfactions.

With the rise of any earnest purpose there comes the problem of the means for its realization. To find the means is the task of the intellect.

Insects, birds and animals attain their simple ends of living, not by thinking, but through evolutionary structure. They are almost perfectly adapted for the realization of their needs in that environment to which they belong. But man does not enjoy such a perfection of structure. Nor could he advance as he does if he did. He is, on the contrary, infinitely progressive. He lives in an environment that is for ever changing, altered ever and anon by his own inexhaustible cunning. His is now no longer the primitive environment for which his instincts were developed; man now lives in the air and under the sea as well as on the land. Many things have to be done by him for the very first time; many of his problems are almost quite new, so that he has more need of the plasticity of reason than of the rigidity of instinct. The newer, more civilized and cultural purposes need for their realization the insight of intelligence, the play of reason, both to judge of the value of those cultural purposes as against instinctive impulses, and to find means for their realization if they be deemed of greater worth. Intelligence is required to analyse these new problems for which there is no precedent, and it is the function of analysis to disclose the necessary means for solving those new problems.

But responsible and deliberate analysis is often preceded by a clumsy way of finding means, the way of "trial and error". The immature and the idle have recourse to this method of blind experimentation. But, though it is no adequate substitute for careful analysis, yet even great minds have found it helpful. For example, the great French scientist, Pasteur, was strongly seized of the purpose to discover the cause of that terrible affliction, hydrophobia. He was searching for a bacillus as its cause. He never found that bacillus, and yet by chance

his efforts after a cure were crowned with success. Previous scientists had pointed out that hydrophobia attacked the central nervous system. This fact directed Pasteur's attention to the nervous system. He took some of the medulla of animals infected with hydrophobia, intending to experiment with it. Accidentally, he left it hanging for some time. On returning he pounded it, made a vaccine, and found that the medulla had lost all its virulence. His intelligence seized upon this fact, and made the inference that, with time, there was a gradual loss of virulence in the medulla so left to dry. Testing the inference, he found that he could make from the pounded dry medulla a vaccine of any desired virulence, according to the length of time the medulla had been left hanging. Experimenting upon animals with vaccine so prepared, he found that he could, by beginning with the less virulent forms of it, so give immunity gradually that at the close he could inject a vaccine of full virulence without causing death, whereas the same kind of animal developed hydrophobia and died if immunity through the weaker vaccines had not first been given. How Pasteur treated and cured of this malady the first human being to be so fortunate, a little boy of Alsace, named Joseph Meister, makes some of the most romantic reading in the history of science. And all this without knowing the real nature of the disease or of the processes he was manipulating.

It will be agreed, then, that to make a trial is at least useful. Men who have energy of purpose enough to launch forth into efforts and experiments are worth more than those who shrink before the difficulty of finding the right means. To make an attempt, even if a blind one, is at least to learn that some means are unsuitable, while it may go further and tempt the problem to yield up its secret and solution. In any case, the unsuitable means tried are then eliminated, and the problem is restricted so that it is brought more within our compass and therefore nearer to solution. Some tincture of courage is needed in the composition of the man who would succeed. He who will not make mistakes may hinder his own advance. Without recommending mere rashness as a virtue, it can be said that one who makes a fetish of security and always plays for safety will be unprogressive. "The race is to the swift and the battle to the strong", while success in life seems often to be reserved for the bold. Progress seems to call for a certain tempered audacity which Fortune in her turn rather loves to favour.

But the methodless method of "trial and error" is in the main blind, risky and wasteful. In using it we are not masters of the situation as the expert would be. It is then, too, that we commit such foolishness as to boil watches in order to make them go, or shake the dry cell of our battery in order to set a disordered electric bell ringing. Mental laziness causes us to

resort to sheer blundering, because serious thinking is always so arduous. The following true incident is an example in which an indolent use of "trial and error" finally gave way to serious analysis of the problem: A certain man of my acquaintance who had a dry cell battery for his door-bell, found one day, on pressing the push-button of his front door, that the bell did not ring, though there was a whirring sound. He played with the problem indolently, blundering instead of reasoning. He walked about aimlessly, looking at things, moved and shook the dry cell, and generally wasted time. This failure and futility, however, soon stung him into an effort of reasoning with which he should have begun. Undertaking a serious analysis of the problem, he bethought him that the essential requirements were (1) a supply of electricity and (2) a properly conditioned bell apparatus. The supply of electricity, in its turn, depended upon (a) a complete circuit and (b) a live cell. He had therefore to discover whether the battery was dead; whether the circuit was broken; whether the apparatus of the bell itself was in ill condition. It is easy to test a cell. It is not always so easy to find a break in a circuit. However, the man now knew what he was doing and why he was doing it; was in fact acting like a rational being. His determined uprooting of the essentials of the problem dispelled futility and assured him of success in an economical way. But how chagrined he was to note what he should have remarked at the outset, and what the selection of essentials now made painfully plain, namely, that the whirring noise which had accompanied the pressure of the push-button answered immediately the question about circuit and cell; they were obviously working. It must therefore be the bell-apparatus that was defective. Examining this he found that a long-continued pressure of the covering box upon the tongue of the bell had finally just prevented it from touching the gong of the bell, though the tongue still vibrated. He had paid the penalty of indolence in wasted time and some sense of shame.

Now, the blundering of this man was not thinking, but the subsequent analysis was. Why is analysis so necessary to true thinking? Because all true thinking is the inferring of right means from a knowledge of a principle which is operating in a number of seemingly different cases: it is by analysis that the common principle, or identity, or law is revealed. When the principle is discovered blindness gives way to insight and impotence is replaced by mastery and expertness. Such principles are essential to both practical performance and to scientific explanation.

A principle is some fundamental characteristic which is more or less the same throughout different cases, different events, different objects, different problems. The cases, events,

objects or problems are different in appearance ; after analysis they are seen to have the same common character. However, to the immature mind, both in the individual and in the race, and to the cultivated mind before analysis the cases, events, objects or problems appear as particulars, unrelated to one another by any principle or conception : they are merely perceived as particular entities, not conceived as members of a related system, or class of things. For example, to the immature mind of mere perception the following are quite unrelated phenomena : that a stone thrown into the air falls again to the earth ; that it is harder to walk up hill than down hill ; that water tends to find its own level ; that it was high tide today at Fort Denison at 3 p.m. ; that people on the other side of the surface of this Globe do not fall off it. The immature mind does not understand these things, because it has not yet discovered a principle to relate them. It perceives them, and may even be interested in them in so far as they affect it immediately, as in the case of the boy who wants a high tide for swimming ; but it does not understand them. The mature mind does, however, understand them ; for it conceives them all as a related system of events bound together by the principle of gravity. This conception or principle of gravitation provides the *raison d'être* of all the phenomena in that list ; it therefore explains them, and it is the function of the intellect to explain phenomena. It can only do this when it finds the active principle of which they are the several different expressions ; and it can find the active principle only by engaging in an act of analysis. The intellect has to deal with sameness amid difference. All phenomena of nature, all events of history, all problems of life and livelihood are informed by some active principle ; and what is more, sometimes several, or several hundred, or even several thousand phenomena, events or problems may be informed by the same principle, in which case they may be classed together and treated alike. It is in this way alone that the mind of man comes to master the apparent chaos of particulars of the world of mere perceiving. The apparent chaos is secretly shot through with order, and it is the business of the intellect to discover the hidden principles which will replace the apparent chaos by recognized law and order. This is, of course, being very notably done in the explanations, classifications and systematizations of science. It is also observable in applied science, in technology, that is, and in the professions. Still, there is much left to be done, and many principles still left to be discovered, before man will be complete master.

The discovery of sameness of character in a number of things not only enables us to explain, it also enables us to perform ; as well as providing means for the theoretical end of

explanation, it provides means for the practical end of performance, so that thought becomes the guide of life and action. We can exemplify this truth as follows: If one were told that a carrier pigeon, a corked empty bottle, a vertical column of smoke rising into the still air from a cottage chimney in France, the electric current, a clock in a church tower, a semaphore are all the same, one would be disposed to ridicule the assertion; but that ridicule would arise from the fact that these several things were being viewed from the standpoint of the differences which they presented to perception rather than from the standpoint of the sameness which they presented to conception. Because the Germans in the Great War were thinking strenuously to the end of self-preservation, they conceived these differing objects instead of perceiving them. And their discovery that these seemingly different objects were in some sense really similar provided them with the powerful means of killing many of the Allied troops, which was their aim. Let one explain: For two months after the German army, in its first repulse, had been driven back from the Marne to the Aisne, it was receiving accurate information about the disposal of the Allied forces. How was it receiving that information? No one on the Allied side seemed to know. But finally, one day, the hands of a clock in a church tower were seen to be moving rather erratically. On investigation, a man was found there using the hands of the clock as he would use the arms of a semaphore for signalling. The thinking of the enemy had gone beneath the usual meaning of the clock as a time-recorder, and had seen the relation of sameness between the hands of the clock and the arms of the semaphore. He was thus enabled to substitute the clock for the semaphore and so found a means for achieving his end. Information of the disposition of forces was sent across to the German lines; the positions were shelled; and that is how thinking killed men. But further, it was also reported that the innocent column of smoke was used for the same purpose. The German mind had conceived the column of smoke as having the same quality of fluency as the electric current: if that quality in the electric current allowed it to be broken into dots and dashes of the morse code, so also could the same quality of fluency in the smoke allow the column to be broken into small and large puffs and the morse code to be used. Indeed, all the several objects which were mentioned in the list, and which at first appeared chaotic, are now seen to be various ways of sending messages, including the carrier pigeon and the corked empty bottle used by shipwrecked mariners. To the intellect things are not always what they seem.

But the intellect is more often perhaps to be found in the service of beneficent ends. Notable examples of this are the achievements of Louis Pasteur and of Lord Lister. Pasteur

found that the alteration which took place in wines and beers, the silk-worm disease, anthrax in stock, swine fever, puerperal fever in women, and many other disorders were all in principle the same. This contention at the time seemed ludicrous and was opposed strenuously by the eminent medical men of the day; but it was proved to be true. It established the science of microbiology which, together with Lister's discoveries, first of antisepsis and then of asepsis which Pasteur's principle made possible, have been so beneficent to mankind that no further emphasis need be laid upon it. The first principle revealed by Pasteur in this regard was that *many disorders were due to infinitesimally small life living on and within human organisms*. The second principle revealed by Pasteur in these investigations was that *immunity against the malevolent microbes could be given*. The third great principle, which followed from the first and which was established by Lister, was that *antiseptics would destroy the germs which had already invaded a wound, while asepsis would prevent germs from entering the wound at all*.

Here we have a brilliant example of three consecutive principles for explaining, relating and treating a multitude of seemingly different cases. That is one of the many and one of the great triumphs of the human intellect. Pasteur by his first principle not only saved France millions of francs by preventing the deterioration of her wines and beers, by devising a method to combat *pébrine* or the silk-worm disease, and by advising the incineration of all carcasses of stock which had died of anthrax, but also led to the saving of human life by his extension of Jenner's principle of immunity.

When a principle has been discovered inferences can be made from it because of its application to so many cases. It is pregnant with meaning, relevant to new particular cases. It can thus become the major premiss of a syllogism, while the new particular case provides the minor premiss, and from the two premisses together we draw our inference or deduction. Deductive reasoning becomes possible when the mind is in possession of a principle to act as major premiss. We saw, for example, that the conception of gravity provided such a principle, and a brilliant instance of the use of just that principle for the purpose of deduction is found in the simultaneous yet independent discovery of the planet Neptune by Adams in England and Leverrier in France. As the reader knows, Neptune was discovered before it was seen, discovered by the magic of thought, by an intellectual process. Using the principle of gravity, these two scientists worked out mathematically and theoretically the orbit of the planet Uranus. However, this theoretically calculated or deduced orbit of Uranus did not correspond exactly with the observed orbit. It was inferred from the principle of gravity that the pull of an unknown

planet in a certain position at a certain time would be necessary to account for the discrepancy between the calculated and the observed orbits. Adams and Leverrier therefore directed their telescopes to that position at that time and beheld Neptune.

Another interesting instance of a principle providing, through deduction, means for the attainment of ends is that of "sound-ranging in war time". The principle is that "sound travels at the rate of about 1,100 feet per second". The data for the minor premiss are secured from fixed microphone positions. From these premisses the location of the gun is deduced. By this reasoning guns were put out of action which were miles away and hidden from view by intervening forests or hills.

In truth, our means are multiplied by as many times as we have things that are essentially similar. If a person knows that ten different things are yet alike fundamentally, then he has ten times as many means at his disposal as those who have not the knowledge of the common quality in them which allows of the substitution of one for another. It is needless to add that this increase of means implies an increase in the possibilities of achievement. Here we have the source of efficiency in so far as it depends upon thinking and not upon mere imitation of somebody else.

Just here, too, we have come upon the secret of the expert mind. The expert is, or ought to be, initiated. He looks beneath the superficial differences in things to the underlying similarities which are the real determining factors. He sees many different things as instances of the same few fundamental principles. He works with a few masterful and widely applicable ideas. The uninitiated sees the series of different things as quite distinct from each other: he cannot synthesize them, and so laboriously treats each one as a new and special case. For the scientific mind the new case is not a special case in any fundamental sense at all, but only the old familiar problem in a somewhat changed external setting. The civil engineer, for example, is for ever applying the same set of principles to roads, bridges, irrigation works. Every science, every art, every profession is a body of principles without knowledge of which one is not expert, not initiated, but either a layman or a quack. Knowledge of principles is the most fruitful source of means. It is in this sense that "knowledge is power"; in any other sense it is merely ballast.

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## THE PHILOSOPHY OF CAPITALISM.

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As a system, or method, of industrial organization, capitalism first became predominant in England during the nineteenth century. Its distinguishing features are not, as is often supposed, mass production, monotonous work, industrial cities, slum populations, or even the existence of huge accumulations of capital, but its adherence to two basic principles, or rather the relatively great stress which it places on private property and freedom of enterprise.

That this is so can be seen very readily if we compare capitalism with socialism, giving the latter term its widest meaning. In both cases we would have capital, presumably mass production, certainly monotonous work for some sections of the community at least, industrial cities and, very probably, slum populations. For these features are typical of industrialism, not capitalism, and it is hardly likely that the most pronounced communist would, in practice, destroy factories and other capital upon which depends, to a very large degree, the prosperity of a people. He may desire the abolition of the evils of the industrial system, but even in Russia the authorities have recognized that it is not possible to do away with what we might call the appliances of capitalism.

Under capitalism property is privately owned. In the socialist state property would be publicly owned. Under capitalism each individual is left to work out his own salvation. He may work or refuse to work, begin an enterprise or close it down, increase output or restrict it—all according to his own self-interest in the pursuit of private gain. Under socialism the state, or its equivalent, will control the activities of its members to a greater or less degree. It will lay down how much is to be produced, how much is to be paid for work done, when and how production is to be carried on—all, we presume, motivated by social interest or social righteousness in the pursuit of communal well-being.

The system of private capitalism is definitely a product of the late eighteenth and the early nineteenth centuries, and it has been coloured very largely by the fact that the nineteenth century was relatively free from regulation and interference by the state in industrial matters. As a result, the government of industry in the nineteenth century was by the autocracy of the employer, who admitted no interference either from employees, consumers or the state. The method of industry

was free and unrestricted competition, and the incentive was unrestricted self-interest in the pursuit of private gain. The problem that must be faced is this—"Why was a system based on the unrestricted pursuit of private gain by individuals allowed to continue?" The answer is to be found in what I have preferred to call the Philosophy of Capitalism.

The genesis of this philosophy is to be found in the writings of Adam Smith, "the father of economics". Smith was a very firm believer in *laissez-faire*, and the philosophy of capitalism, if it is not *laissez-faire*, is definitely derived from that doctrine. At the time he wrote, Smith was influenced by the obvious absurdity of the mass of regulation and restriction, both internal and international, which had overwhelmed eighteenth century industry, and in attempting to make the evils of over-regulation apparent to all, he went, I think, too far in the other direction. In Book IV of the "Wealth of Nations", we read: "Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. It is his own advantage, indeed, and not that of society, which he has in view. But the study of his own advantage naturally, or rather necessarily, leads him to prefer that employment which is most advantageous to the society. . . . By directing industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for society that it was no part of it. By pursuing his own interest he frequently promotes that of society more effectively than he really intends to promote it. I have never known much good done by those who affected to trade for the public good. It is an affectation, indeed, not very common among merchants, and very few words need be employed in dissuading them from it."

Nor were Smith's contemporaries and followers slow to follow his lead. Speaking of Adam Smith in 1838, McCulloch said: "The principal object of Political Economists is to enlighten mankind, by showing how their wealth and well-being may be most effectually promoted. And this Adam Smith has done better than anyone else. He has shown that, speaking generally, the riches and comforts that are universally desired will be procured with the least difficulty and in the greatest abundance, by allowing individuals to pursue their own interests in their own way, subject only to the condition of their carefully respecting the property and rights of others."

Similarly, Mercier de la Rivière, the Physiocrat, was agreeably surprised to notice that "the world goes by itself", and was led to lay down the theorem "that the particular

interest of the individual cannot possibly be separated from the common interest of all".

But why did this amazing correlation between self-interest and the good of all exist? Because of certain natural and immutable laws. Indeed, the classical economists assumed a natural law in practically every sphere of economic thought, and were thus able to pass over the many obvious evils of capitalism as inevitable, natural, governed by "inexorable law". It was a very easy method of explaining away unfortunate facts, and, indeed, we cannot really say that an effective criticism was levelled at capitalism until men realized that there are no "natural and immutable" laws in economics.

Such then was the philosophy. It was upheld and elaborated by an appeal to economic theory and practice. In the first place, the entrepreneur, by pursuing his own self-interest, would work as hard as possible, produce as much as possible, and so add to the wealth of the community. Moreover, in order to make the greatest profit for himself, he would naturally produce those commodities which the consumers desired. By so doing he obviously satisfied the needs of the community and promoted its well-being. Since the method of capitalism was competition, each producer would be forced to sell his goods at the cheapest possible price, with the result that the selling price would approximate very closely to the cost of production. Thus competition protects the consumer. Now the above elaboration of the philosophy of capitalism is undeniably true, providing always that the method of capitalism is competition. When, towards the end of last century, combination took place over wide areas of industry the consumer lost his strongest safeguard against exploitation by the entrepreneur, and it could no longer be maintained that self-interest in the pursuit of private gain necessarily led to the good of all.

But the economists who were attempting to justify capitalism went further. If industry is guided by natural laws, then any regulation or interference whatsoever by the state is likely to prove highly detrimental, for the consumer is already protected by competition. The problem of the employee was solved very easily, again by appeal to natural laws, or even by reference to church teaching. The employee was living in that state of life unto which it had pleased God to call him. Had he any marked ability the workman could quite easily rise to the status of an employer. Otherwise, he deserved nothing better than he received, which was little enough. In any case poverty was not only inevitable, but eminently desirable from an economic point of view. One eminent economist looked on poverty as "a most necessary and indispensable ingredient in society without which nations and communities could not exist in a state of civilization. It is",

he continues, "the lot of man. It is the source of wealth, since without poverty there could be no labour, there could be no riches, no refinement, no comfort, and no benefit to those who may be possessed of wealth."<sup>1</sup> The remarks of "The Well Wisher of Mankind", an Anglican clergyman, contain very much the same sentiments. A large army of poverty-stricken workers is obviously essential so that "there may always be some to fulfil the most servile, the most sordid and the most ignoble offices in the community. The stock of human happiness is thereby much increased whilst the more delicate are not only relieved from drudgery . . . but are left without interruption to pursue those callings which are most suited to their dispositions."<sup>2</sup>

Without multiplying instances, enough has been said to show conclusively that the horrors of poverty, and the mental and spiritual degradation resulting from long hours, low wages, filthy slums, child labour, were all defended as being divinely ordained. They were a necessary, if, perhaps, somewhat unfortunate appendage of the unchanging but obviously inspired system of capitalism.

The economists were not alone in upholding the policy of non-interference. Bright and Cobden, who engaged in a bitter fight against slavery in the Colonies, united with economists like Ricardo and Malthus, churchman like Archbishop Whately, and philosophers like Mill and Bentham, in defending evils which resulted from the "natural law of wages".<sup>3</sup>

The difference between nineteenth century and twentieth century capitalism does not lie so much in its philosophy or underlying principles, as in its practice. We have come gradually to realize that the basic assumptions or natural laws are unwarranted, and that the policy of *laissez-faire* must be wisely regulated. Capitalism in its perfection placed too much stress on wealth and too little on human beings. It insisted that production could not be too great, but failed to realize that the prosperity of a people depends to a large extent upon the way the product is distributed. It failed to realize that men are not equal in bargaining power, and that the weak must be protected by external authorities. The capitalists did not see that, to the mass of the population, liberty meant liberty to work or to starve, for while at law every one had freedom of choice, economically freedom only existed for certain classes. In short, while self-interest undoubtedly did lead to great material progress, it meant ultimately that a few people benefited at the expense of the many.

<sup>1</sup> Patrick Colquhoun, "Resources of the British Empire", 1814.

<sup>2</sup> Cf. Webb, "Decay of Capitalist Civilization", p. 13.

<sup>3</sup> *Ibid.*, p. 12.

It is not surprising, therefore, that the practice of capitalism has seen marked changes. Freedom of action has, to a great degree, given place to regulation. Self-interest has been put in chains, even though the chains be of silk. Private property rights have been modified by progressive taxation, heavy death duties, excess profits taxes in time of war and by state intervention with regard to factories, child labour, and so on. These changes were foretold early in the nineteenth century in the writings of socialist reformers. Humanitarian employers, like Robert Owen, demonstrated the feasibility of paying high wages and granting shorter hours of labour. The writings of Dickens, Morris, Mrs. Gaskell, and a score of others, drew attention to the conditions in which men, women and children lived and worked. The industrial code gradually encroached upon functions which had previously been solely the province of the employer. Trade unions arose in spite of bitter opposition to assert and fight for the rights of the employees. Economists, beginning with J. S. Mill, began to consider working conditions in their treatment of industry and soon perceived that human welfare, human happiness, was of greater importance than mere goods and services.

The change from older capitalism to the new capitalism has been gradual and continuous. There is no reason to believe that we have now reached the end of our industrial evolution. Capitalism has changed in the past and it will change in the future, but whether the industrial system will remain as it is at present, based on an individualistic philosophy, or whether it will become socialistic or communistic with a basis of communal philosophy, cannot, with safety, be predicted.

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## DISCUSSION.

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### THEORY AND PRACTICE IN MORALS: A REJOINDER.

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By PROFESSOR T. A. HUNTER.

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To deal fully with the comments made by Professor Anderson on my article would take more time than I can give at the moment and probably more space than you can afford. With much that Professor Anderson writes I agree, but these comments of his seem to me to supplement rather than contradict my thesis. I confess, however, that there are parts of my critic's comments that I do not understand, and hence what follows may possibly misinterpret his views.

If I understand him rightly, however, we do differ on a fundamental point that has implications in different parts of his criticism. Indeed, Professor Anderson seems to provide me with another instance of the attempt to escape the real issues of life. To the economist who retreats from the actual problems of modern industry to an imaginary world in which he manipulates the unreal actions of the "economic man", and to the rotarian who retires from the real struggle of improving the ethics of business to the easy world of moral slogans, we must add the philosopher who, unconcerned with the real moral issues of this world, affirms that there are after all only moral facts and that the distinction between moral theory and practice, in the high world (*sub specie æternitatis*) that he has reached, simply does not exist. On the contrary, nothing seems clearer to me than the failure of men and women to make their moral practice accord with their moral theory.

It may be true that Socrates exploded the view that goodness consists in rendering something to someone, but only because the moralists of the day wished to tear human action from its contacts with real life. The mere physical act of giving half a crown to a tramp is not necessarily morally good. This act must not be torn from its context. But, on the other hand, moral action is not possible *in vacuo*; we must act in a real world and not dream in an imaginary one, however pleasant this latter process may be. This seems to me precisely the lesson taught by Socrates alike in his life and in his death. It was because Socrates demanded that morality should come to earth that rotarian Athens put him to death.

Professor Anderson tells us: "To sum up, there is not and cannot be any divergence between theory and practice in morals. There are no 'ethical principles' which 'control' business or any other human activity, high or low. There are only the human activities, exhibiting various characters, being good, bad, or indifferent. Good and bad activities are moral practice and these activities are the subject-matter of moral theory. To be a moral theorist is to study such facts, not to lay down rules." May we ask the critic how we are to decide whether an activity is good, bad, or indifferent, and why we take the trouble to study the moral facts? It appears to me that it will be difficult for Professor Anderson to explain the death of Socrates on the views he holds. To me Socrates suffered the extreme penalty because the principles of life he advocated imperilled interests that were dear to the Athenian. Further, if, as Professor Anderson admits, we must study moral facts, must we not then come to some conclusions, and, if we do, may not these conclusions influence or direct conduct?

I do not agree, therefore, with Professor Anderson in thinking that there is and can be no divergence between theory and practice. Even in the so-called pure sciences it is rare for any but the greatest mind not to tend to overlook the "ugly fact" that "would slay his beautiful theory". In the moral sphere the difficulty is much greater. Men shut their eyes to the real implications of their moral theories.

Again, I cannot agree that "the good is not . . . anything else of a relative kind". After what Professor Anderson has written, it seems to me inconsistent to posit absolutism in ethics. Perhaps this is one of the places in which I fail to understand my critic. In my view all goods are relative and the search for *the* good (an absolute of some kind) is a vain one.

In one point at least Professor Anderson appears to have misunderstood me. He implies that I put forward the second code as desirable and the first as undesirable. My purpose was to show that the second code was a real one, a theory that in some measure directed—*pace* Professor Anderson—the actions of men, and that the first was an unreal code, for while men might obtain a certain satisfaction by shouting its slogans, it never occurred to them to carry the code into their business relations. It was a code to talk about, not one to act upon.

I dissent also from Professor Anderson's suggestion that the framer of the second code might after all be merely giving the show away as a method of humbugging the public. I perhaps have the advantage of knowing the framer of the code, and if my critic had the same advantage I am sure he would not make the suggestion. In some of his criticisms

of the second code Professor Anderson appears to me to be living in an unreal world. For instance, his interpretation of rule 2 is clearly ridiculous. That rule plainly says that the aim of the company is profit, not service. In these days of monopoly, with its limitation of production to keep up prices, to identify "efficiency" with "increasing custom" indicates a sad lack of knowledge of modern business methods. Of course, in the happier world in which conflicts between theory and practice do not exist, such an identification may be true, but this world is not the world of modern business.

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# RESEARCHES AND REPORTS.

## I.

### PSYCHOLOGICAL TESTS FOR CLERICAL WORKERS.<sup>1</sup>

By RALPH PIDDINGTON, B.A.

#### INTRODUCTION.

THE present investigation was undertaken with the object of finding the possible applications of tests for clerical workers in Australia. It must be emphasized from the first that the present investigation can by no means be considered final or complete; on the contrary, it is to be regarded as nothing more than a preliminary try-out of certain tests and an attempt to establish tentative Australian norms over a very limited field. The procedure of the present investigation has been largely governed by considerations of expediency, and no very elaborate statistical analysis of the results has been attempted, since the number of cases dealt with is not regarded as sufficient to warrant such treatment; nor is the team of tests finally selected to be regarded as finalized; further investigation may indicate that some tests have been included which should have been omitted and *vice versa*. Probably the most serious shortcomings of the whole investigation are the absence of individual tests and the non-specific nature of the ratings upon which the final results are founded. Apart from the general distinction made by Link between "intelligence" and "technique" (see below) in determining success in clerical occupations, there are a number of more or less different occupations coming under the heading "clerical work", and all demanding a different "technique". No attempt is made to deal specifically with these different branches of this type of work. The object of the investigation has been to select general tests of clerical technique to supplement the results of intelligence tests for purposes of vocational guidance and selection.

#### PREVIOUS INVESTIGATIONS.

More research has been done on tests for clerical occupations than in any other field of vocational psychology. Space does not permit a detailed account of all the work done in this field, and only the three researches upon which the present investigation is largely modelled will be described.<sup>2</sup>

The first research to be described is that of *Link*,<sup>3</sup> who devised tests for a number of special branches of clerical work. It was Link who first drew the very important distinction between "technique" and "intelligence" in the determination of success in clerical work. He dealt with specialized branches of clerical work and devised special tests for them as follows:

|  |                          |
|--|--------------------------|
| (1) <i>Clerical Series (General).</i>  | (2) <i>Typist Tests.</i> |
| (a) Number Checking.                   | (a) Substitution.        |
| (b) Directions or Sentence Completion. | (b) Sentence Completion. |
| (c) Substitution.                      | (c) Spelling.            |
| (d) Simple Arithmetic.                 | (d) Typing Test.         |
| (e) Card Sorting.                      |                          |

<sup>1</sup> Thanks are due to Dr. A. H. Martin, Lecturer in Psychology at Sydney University and Hon. Director of the Australian Institute of Industrial Psychology, for direction and supervision in the preparation of the tests; also to Miss Taylor, of Farmer's Ltd., for help and co-operation in the administration of the tests and for the provision of ratings of the subjects tested. Thanks are also due to Mr. Blumer, of Petersham Intermediate High School, for help and co-operation in the administration of the tests at the school.

<sup>2</sup> A summary of other investigations may be found in Kornhauser and Kingsbury *Psychological Tests in Business*, pp. 77-111.

<sup>3</sup> *Employment Psychology*, pp. 77-102.

|                                   |  |
|-----------------------------------|--|
| (3) <i>Stenographer's Series.</i> | (4) <i>Comptometer Operator's Series.</i>            |
| (a) Substitution.                 | (a) Number Checking.                                 |
| (b) Spelling.                     | (b) Substitution.                                    |
| (c) Sentence Completion.          | (c) Directions.                                      |
| (d) Grammar Test.                 | (d) Simple Arithmetic.                               |
| (e) Typing Test.                  | (e) Arithmetical Work on Actual Machine (two tests). |

A significant feature of Link's investigation is that he found a close correspondence between technique and intelligence. He found, however, that a clerk somewhat lacking in technique may very frequently overcome this deficiency by a higher level of intelligence. Link's test results correspond very closely with the supervisor's judgment and that this correspondence increases with the period of employment. Link emphasizes the importance of testing for specialized branches of clerical work, since, as he points out, different departments require different abilities.

In 1919, Thurstone<sup>1</sup> prepared a series of clerical tests on a model somewhat different from the previous forms. Thurstone gave each examinee a booklet containing a series of tests which, he asserted, were samples of ordinary office work. He measured :

- (a) The time taken to complete all the tests.
- (b) The number of errors.

He thus obtained ratings for (a) speed, (b) accuracy, and (c) speed and accuracy combined.

The tests used were as follows :

|                                  |                        |
|----------------------------------|------------------------|
| (1) Arithmetical Checking.       | (5) Name Listing.      |
| (2) Spelling Correction.         | (6) Classification.    |
| (3) Letter Cancellation.         | (7) Arithmetic.        |
| (4) Substitution (Digit-letter). | (8) Matching Proverbs. |

There is a time-limit of ninety minutes for the test, but nearly all subjects complete it within this time, the average being forty minutes.

The following correlations with office efficiency were obtained by Thurstone :

|   |      |
|---|------|
| Schooling .. .. .. .. .. .. ..                  | 0.47 |
| Accuracy in Test .. .. .. .. .. .. ..           | 0.5  |
| Speed in Test .. .. .. .. .. .. ..              | 0.42 |
| Accuracy and Speed in Test Combined .. .. .. .. | 0.61 |

Thus, as Thurstone points out, the tests give a better measure of office efficiency than does school attainment.

Burt<sup>2</sup> prepared tests for clerical workers; the procedure in the investigation was as follows :

- (1) The tests were prepared by application to a small group and the obviously unsatisfactory tests were thus eliminated.
- (2) The tests were applied to a number of school children and the test questions thus graded. The relative difficulty of the tests and test questions was thus ascertained.
- (3) The tests thus prepared were applied to "all the available typists in an important office of a large education authority—thirty in number". The results so obtained were correlated—with supervisors' estimates of efficiency. The tests were as follows :
  - (1) *Intelligence tests*, including opposites and synonyms, analogies, mixed sentences and sentence completion.
  - (2) *Educational tests*—spelling and arithmetic.
  - (3) *Tests of linguistic ability and general information*—synonyms and definitions.

The above were given as group tests.

- (4) *Tests of special ability*, including tests for shorthand and typewriting. As no attempt has been made in the present investigation

<sup>1</sup> See *Journal of Applied Psychology*, III, 248-251.

<sup>2</sup> See the *Journal of the National Institute of Industrial Psychology*, pp. 23-27 and 79-81.

to deal with specialized tests for shorthand and typewriting, that is to say, "trade tests" along this line, this part of the investigation will not be described. It may be found in the *Journal of the National Institute of Industrial Psychology*, Vol. I, page 24. As a result of the investigation, Burt divides clerical workers into four classes:

- (1) Those capable of work of a high order of intelligence.
- (2) Those capable of merely mechanical work.
- (3) Those at present unfit for practical work who are likely to become capable after further training.
- (4) Those incapable of any practical work whatever.

The results of this investigation appear to be most satisfactory. The general intelligence tests correlate with the supervisors' rankings for general office efficiency, 0.79. The shorthand tests correlate with efficiency in shorthand, 0.79, but the correlation between typing tests and the supervisors' rankings for typewriting is only 0.6; though this may be regarded as satisfactory, it is not as high as the other correlations; however, as Burt points out, this was to be expected in view of the fact that typewriting ability may be regarded as the most difficult aspect of clerical work to measure. The following table gives the coefficients of correlation found in Burt's investigation as far as the intelligence tests are concerned:

COEFFICIENTS OF CORRELATION.

|                         | Mixed Sentences. | Opposites. | Arithmetic. | Completion. | Definition. | Synonyms. | Analogies. | Spelling. |
|-------------------------|------------------|------------|-------------|-------------|-------------|-----------|------------|-----------|
| Mixed Sentences..       | ...              | —          | 0.71        | 0.74        | 0.67        | 0.61      | 0.51       | 0.51      |
| Opposites ..            | ...              | 0.71       | —           | 0.61        | 0.61        | 0.80      | 0.68       | 0.48      |
| Arithmetic ..           | ...              | 0.74       | 0.61        | —           | 0.55        | 0.46      | 0.78       | 0.32      |
| Completion ..           | ...              | 0.67       | 0.61        | 0.55        | —           | 0.59      | 0.47       | 0.38      |
| Definition ..           | ...              | 0.61       | 0.80        | 0.46        | 0.59        | —         | 0.57       | 0.24      |
| Synonyms ..             | ...              | 0.51       | 0.63        | 0.46        | 0.47        | 0.57      | —          | 0.34      |
| Analogies ..            | ...              | 0.51       | 0.46        | 0.73        | 0.38        | 0.24      | 0.34       | —         |
| Spelling ..             | ...              | 0.51       | 0.48        | 0.32        | 0.31        | 0.27      | 0.24       | 0.27      |
| General Intelligence .. | ...              | 0.44       | 0.52        | 0.41        | 0.48        | 0.36      | 0.31       | 0.35      |
| Typing ..               | ...              | 0.37       | 0.35        | 0.28        | 0.46        | 0.27      | 0.33       | 0.31      |
| Shorthand ..            | ...              | 0.45       | 0.32        | 0.33        | 0.49        | 0.36      | 0.39       | 0.48      |

## THE PRESENT INVESTIGATION.

For this investigation a series of thirteen tests was originally prepared. Some of these were founded on tests used in previous series, while some have been used here for the first time. It should be emphasized that for purposes of vocational guidance and selection the tests must be supplemented by a general intelligence test as well as, in the case of stenographers, tests of motor capacity. The intelligence test suggested is a modified and extended Army Alpha examination<sup>1</sup> at present in process of preparation by Miss Hales, B.A., of the Australian Institute of Industrial Psychology. As this includes a sentence completion test, no such test is included in the clerical series, though it is a recognized test for clerical work.

The tests in the original series were as follows:

*Test I.—Letter Cancellation.* This test is too well known to require description. It has been used as a test for workers in the printing trade, and it was thought that it might have some significance for clerical work. A mixed cancellation test is included in the Thurstone Clerical Tests.

<sup>1</sup> The tests used in the Army Alpha examination have been shown to correlate with success in clerical work (see *Memoirs of the National Academy of Sciences*, Vol. XV, 837). Several tests similar to these were also used by Burt (see above).

*Test II.—Substitution* (Symbol-digit) occurs in the American Army Beta examination (Test 2). Owing to the irregular nature of the symbols used, it was thought that it would be a particularly suitable test for shorthand work, and therefore preferable to other substitution tests.

*Test III.—Simple Arithmetic* consists of easy sums in addition, subtraction, multiplication and division.

*Test IV.—Item Checking* is a test originally prepared by the late Professor B. Muscio. Similar tests are found in the clerical tests of the National Institute of Industrial Psychology and also in the American Army Beta examination. A number of pairs of items are presented, and the subject is required to mark any pair in which the items are not exactly the same, e.g.:

|                             |
|-----------------------------|
| 576 . . . 576               |
| aAc .X. aBc                 |
| Thomson, N. .X. Thomson, F. |

*Test V.—Spelling Correction* is modelled on the spelling correction test of the Thurstone examination. However, the nature of the test used in the present investigation is such that the words are in increasing order of difficulty, which is not the case in the Thurstone test. Three paragraphs, in which some spelling mistakes have been made, are presented, and the subject is required to cross out all mis-spelled words. This form of spelling correction test is regarded as preferable to Link's form, in which the words are merely presented *seriatim*. Thurstone points out that when the words are distributed in a sensible passage careless subjects allow their attention to be attracted by the trend of the passage and forget to pay attention to spelling mistakes.

*Test VI.—Arithmetical Checking.* A series of simple calculations, with answers some right and some wrong, is presented, and the subject is required to cross out any item in which the answer is wrong. This test is modelled on a test in the Thurstone examination, but here, again, the questions are of increasing difficulty, which is not the case in the Thurstone test.

*Test VII.—Number Checking* is a well-known test of the Woodworth-Wells Series used by Link as a clerical test and found to be satisfactory.<sup>1</sup>

*Test VIII.—Free Chain Association* is used here for the first time as a clerical test. It is surprising that it has not been used in previous investigations, since it is adopted in verbal form in the Binet-Simon Scale (Terman Revision) as an intelligence test.

The extent to which the test measures "linguistic fluency" as opposed to mere speed of writing must be a matter for further research. In the meantime the test has justified its inclusion in the scale on purely empirical grounds.

*Test IX.—Listing* was suggested by a test of rather a different nature used in the Scott Co. File Clerk Tests.<sup>2</sup> A list of names of men, together with the cities in which they live and the salaries which they earn, is presented, e.g.:

| Name. | City.  | Salary. |
|-------|--------|---------|
| James | Paris  | £8,000  |
| Marks | London | £4,500  |

and so on. By using this list the subject is required to do a series of problems of varying difficulty, such as:

Write out in the following space the names of all the men who live in London.

Write out in alphabetical order the names of men living in America or France who earn more than £6,000.

The test in its present form is used for the first time in this investigation.

*Test X.—Alphabetical Arrangement.* Four lists of ten names each are presented, and the subject is required to arrange them alphabetically by

<sup>1</sup> See Link, *Employment Psychology*, p. 404.

<sup>2</sup> See *Journal of Personnel Research*, Vol. I, p. 547.

placing in each list a figure 1 against the first name in alphabetical order, 2 against the second, and so on. The method of arrangement of the names in this test is new and was regarded as preferable to the method used in the N.I.I.P. Alphabetical Arrangement test, since the directions are probably less likely to be misunderstood.

*Test XI.—Numerical Arrangement.* This test also was suggested by the N.I.I.P. Numerical Arrangement test, but here, again, the method is new, being analogous to the one used in the previous test.

*Test XII.—Concentration* is a test which has been prepared by Mr. C. E. W. Bellingham, M.A., of Sydney University, and is here used for the first time as a clerical test. It consists of a continuous series of squares and rectangles arranged in random order. The subject is required to place a dot in every square and a dash in every rectangle.

*Test XIII.—Classification* is, in its present form, original. The English classification test is not regarded as sufficiently difficult for advanced forms of clerical work. The present test is modelled more on the lines of Link's Classification Test.<sup>1</sup> A number of topics are presented and the subject is required to classify them under one of the following headings :

|                                 |                         |
|---------------------------------|-------------------------|
| (1) Traffic and Transportation. | (4) Politics.           |
| (2) Education.                  | (5) Primary Production. |
| (3) Athletics.                  | (6) Manufacture.        |

The topics are of varying difficulty, e.g.:

- “Proposed boxing contest.”
- “Delay of goods by shipping strike.”
- “Cost of production of agricultural machinery.”

In regard to the administration of the tests, the time-limit method was followed. It may be pointed out that Burt obtained higher correlations by using this method than did Thurstone who used a test (for all practical purposes) without time-limit.

The tests were administered as group tests. This, unfortunately, eliminated valuable individual tests, such as card sorting (Link), memory span tests and motor tests for typists. However, the series as prepared should be supplemented by tests of this type and also by temperamental and character ratings, educational records, etc., for purposes of vocational guidance and selection.

The tests were applied to the following groups :

- (a) A group of twenty-eight students attending the Psychology II Course at Sydney University.
- (b) A group of thirty-eight women clerks at Farmer & Co.'s. Unfortunately, supervisors' ratings were not available for all of these.
- (c) Four classes of boys at Petersham Intermediate High School. Two of these classes were taken from third year and two from second year.

These groups will be referred to as Groups A, B and C respectively.

From Group A, the mean, standard deviation, median and quartile deviation were obtained and also the intercorrelations of the tests.

From Group B were obtained correlations of the tests with :

- (1) Rating for Typing Efficiency (21 cases).
- (2) Rating for General Efficiency (21 cases).
- (3) Shorthand Efficiency (13 cases).

The ratings for typing and general efficiency were calculated from the mean position on two supervisors' rankings. The ranking for shorthand efficiency is based on the shorthand speed test passed.

The tests significant for clerical work were thus selected. Norms for this group were also established. It should be noted that the measure of central tendency used in this investigation is the median,<sup>2</sup> with the quartile

<sup>1</sup> See *Employment Psychology*, p. 426.

<sup>2</sup> Except in Group A (see above).

deviation to indicate dispersion. This procedure is desirable with small groups in which extreme scores are of frequent occurrence, since the median and quartile deviation are not so greatly affected by extreme scores as are the mean and standard deviation.<sup>1</sup> In several of the distributions extreme scores (especially at the lower levels) are of frequent occurrence, probably owing to misunderstood directions. Even in the small number examined, several cases of deviations greater than four times the quartile deviation occur. Such deviations, it may be pointed out, should not occur more than about once in 175 cases.<sup>2</sup> Such instances appear to justify the use of the median and quartile deviation in the present investigation.

From Group C were obtained tentative norms for the significant tests for ages fourteen, fifteen and sixteen. A cursory examination of the test scores as compared with school position shows that little or no correlation exists between test results and school success. A set of correlations from one class are given to illustrate this.

### RESULTS.

From Group A the following norms were obtained (28 cases):

| Test.                           | Mean. | Standard Deviation. | Lower Quartile. | Median. | Upper Quartile. | Quartile Deviation. |
|---------------------------------|-------|---------------------|-----------------|---------|-----------------|---------------------|
| I.—Number Checking ..           | 21.68 | 3.66                | 20.5            | 22      | 24              | 1.7                 |
| II.—Substitution ..             | 24    | 4.57                | 21.5            | 23.5    | 29              | 3.7                 |
| III.—Simple Arithmetic ..       | 14.93 | 2.56                | 13              | 14.5    | 17              | 2                   |
| IV.—Item Checking ..            | 24.29 | 4.44                | 21.5            | 25      | 28              | 3.2                 |
| V.—Spelling Correction ..       | 34.75 | 3.66                | 33.5            | 36      | 37              | 1.7                 |
| VI.—Arithmetical Checking ..    | 14.71 | 2.57                | 13              | 15      | 16              | 1.5                 |
| VII.—Number Checking ..         | 43.7  | 9.76                | 36              | 43      | 50              | 7                   |
| VIII.—Free Chain Association .. | 56.68 | 10.13               | 49.5            | 60.5    | 64.5            | 7.5                 |
| IX.—Listing ..                  | 20.89 | 4.45                | 18.5            | 22      | 24              | 2.7                 |
| X.—Alphabetical Arrangement ..  | 23.18 | 4.9                 | 19              | 22.5    | 26.5            | 3.7                 |
| XI.—Numerical Arrangement ..    | 25.39 | 6.74                | 22              | 26.5    | 30              | 4                   |
| XII.—Concentration ..           | 155.3 | 24.55               | 14.3            | 155.5   | 168             | 12.5                |
| XIII.—Classification ..         | 16.5  | 4.44                | 13.5            | 15.5    | 18.5            | 2.5                 |

The intercorrelations of the test scores for Group A were as follows:

| Test.                           | Substitution. | Simple Arithmetic. | Item Checking. | Spelling Correction. | Arithmetical Checking. | Number Checking. | Free Chain Association. | Listing. | Alphabetical Arrangement. | Numerical Arrangement. | Concentration. | Classification. |
|---------------------------------|---------------|--------------------|----------------|----------------------|------------------------|------------------|-------------------------|----------|---------------------------|------------------------|----------------|-----------------|
| I.—Letter Cancellation ..       | 0.44          | 0.20               | 0.52           | 0.44                 | 0.22                   | 0.49             | 0.19                    | 0.21     | 0.18                      | 0.11                   | 0.41           | 0.16            |
| II.—Substitution ..             |               | 0.26               | 0.54           | 0.48                 | 0.58                   | 0.76             | 0.54                    | 0.59     | 0.74                      | 0.51                   | 0.60           | 0.42            |
| III.—Simple Arithmetic ..       |               |                    | 0.46           | 0.43                 | 0.60                   | 0.36             | 0.14                    | 0.11     | 0.20                      | 0.38                   | 0.05           | 0.06            |
| IV.—Item Checking ..            |               |                    |                | 0.49                 | 0.61                   | 0.67             | 0.40                    | 0.44     | 0.67                      | 0.55                   | 0.51           | 0.52            |
| V.—Spelling Correction ..       |               |                    |                |                      | 0.45                   | 0.55             | 0.32                    | 0.41     | 0.32                      | 0.48                   | 0.19           | 0.07            |
| VI.—Arithmetical Checking ..    |               |                    |                |                      |                        | 0.60             | 0.18                    | 0.37     | 0.51                      | 0.60                   | 0.37           | 0.40            |
| VII.—Number Checking ..         |               |                    |                |                      |                        |                  | 0.40                    | 0.44     | 0.73                      | 0.62                   | 0.34           | 0.36            |
| VIII.—Free Chain Association .. |               |                    |                |                      |                        |                  |                         | 0.04     | 0.22                      | 0.18                   | 0.25           | 0.06            |
| XI.—Listing ..                  |               |                    |                |                      |                        |                  |                         |          | 0.55                      | 0.30                   | 0.36           | 0.38            |
| X.—Alphabetical Arrangement ..  |               |                    |                |                      |                        |                  |                         |          |                           | 0.52                   | 0.40           | 0.53            |
| IX.—Numerical Arrangement ..    |               |                    |                |                      |                        |                  |                         |          |                           |                        | 0.87           | 0.34            |
| XII.—Concentration ..           |               |                    |                |                      |                        |                  |                         |          |                           |                        |                | 0.33            |

<sup>1</sup> See Yule, *Introduction to the Theory of Statistics*, p. 120.

<sup>2</sup> Cf. Pearl, *Medical Biometry and Statistics*, p. 218.

From Group B the following norms were obtained (38 cases) :

| Test.                        |    | Lower Quartile. | Median. | Upper Quartile. | Quartile Deviation. |
|------------------------------|----|-----------------|---------|-----------------|---------------------|
| I.—Letter Cancellation       | .. | 19              | 22      | 24              | 2.5                 |
| II.—Substitution             | .. | 23              | 26      | 29              | 2.5                 |
| III.—Simple Arithmetic       | .. | 11.5            | 13      | 15              | 1.75                |
| IV.—Item Checking            | .. | 17              | 19      | 21              | 2.0                 |
| V.—Spelling Correction       | .. | 22              | 24      | 28              | 3.0                 |
| VI.—Arithmetical Checking    | .. | 9               | 11      | 13              | 2.0                 |
| VII.—Number Checking         | .. | 35              | 38      | 43.5            | 4.25                |
| VIII.—Free Chain Association | .. | 31              | 36.5    | 42              | 5.5                 |
| IX.—Listing                  | .. | 15              | 17      | 22              | 3.5                 |
| X.—Alphabetical Arrangement  | .. | 15.5            | 19      | 23              | 3.75                |
| XI.—Numerical Arrangement    | .. | 19              | 23      | 27              | 4.0                 |
| XII.—Concentration           | .. | 125.5           | 136     | 145             | 9.75                |
| XIII.—Classification         | .. | 8.5             | 10      | 12              | 1.75                |

The results were then correlated with efficiency in typing, general office work, and shorthand, and also with the mean of three scores in the Blackstone Stenographic (Typing) Tests at present used by Farmer & Co. The correlations obtained were as follows:

| Test.                          | Typing Ranking. | P.E. + or -. | Ranking for General Efficiency. | P.E. + or -. | Blackstone Typing Test. | P.E. + or -. | Shorthand Speed Test Passed. | P.E. + or -. |
|--------------------------------|-----------------|--------------|---------------------------------|--------------|-------------------------|--------------|------------------------------|--------------|
| I.—Letter Cancellation         | 0.1             | 0.15         | 0.14                            | 0.15         | -0.32                   | 0.14         | -0.16                        | 0.19         |
| II.—Substitution               | 0.36            | 0.13         | 0.38                            | 0.13         | 0.22                    | 0.15         | 0.36                         | 0.17         |
| III.—Simple Arithmetic         | -0.1            | 0.15         | 0.02                            | 0.15         | 0.1                     | 0.15         | -0.34                        | 0.17         |
| IV.—Item Checking              | -0.16           | 0.15         | -0.08                           | 0.15         | -0.14                   | 0.15         | 0.22                         | 0.19         |
| V.—Spelling Correction         | 0.43            | 0.13         | 0.3                             | 0.14         | 0.26                    | 0.14         | 0.24                         | 0.18         |
| VI.—Arithmetical Checking      | -0.09           | 0.15         | -0.12                           | 0.15         | 0                       | 0.15         | 0.35                         | 0.17         |
| VII.—Number Checking           | 0.38            | 0.13         | 0.5                             | 0.12         | 0.16                    | 0.15         | -0.36                        | 0.17         |
| VIII.—Free Chain Association   | 0.28            | 0.14         | 0.12                            | 0.15         | 0.26                    | 0.14         | 0.6                          | 0.18         |
| IX.—Listing                    | 0.38            | 0.13         | 0.24                            | 0.15         | 0.38                    | 0.13         | 0.52                         | 0.14         |
| X.—Alphabetical Arrangement    | 0.06            | 0.15         | 0.04                            | 0.15         | 0.18                    | 0.15         | 0.14                         | 0.19         |
| XI.—Numerical Arrangement      | 0.14            | 0.15         | 0.08                            | 0.15         | 0.16                    | 0.15         | -0.23                        | 0.19         |
| XII.—Concentration             | 0.42            | 0.13         | 0.5                             | 0.12         | 0.44                    | 0.13         | 0.5                          | 0.15         |
| XIII.—Classification           | 0.7             | 0.08         | 0.52                            | 0.11         | 0.42                    | 0.13         | 0.42                         | 0.16         |
| XIV.—Typing Ranking            | —               | —            | 0.77                            | 0.05         | 0.59                    | 0.10         | —                            | —            |
| XV.—General Efficiency Ranking | ..              | ..           | —                               | —            | 0.48                    | 0.12         | —                            | —            |

From three results it was decided to eliminate Tests I, III, IV, VI, X and XI from the scale as having no relation to success in clerical work. Moreover, Tests VIII and IX do not appear to possess diagnostic value for general office efficiency, or Tests V and VII for shorthand proficiency.

The correlation of -0.36 between Test VII and shorthand proficiency is anomalous. It is probably due to chance variations, since the number of cases (13) is small. It may be noted that Link does not include a number checking test in his stenographer's series of tests.

From Group C the following age norms were obtained :

## AGE NORMS FOR SIGNIFICANT TESTS.

| Test.                            | Age 16 (26 cases). <sup>1</sup> |         |                 |                     | Age 15 (41 cases). |         |                 |                     | Age 14 (14 cases). |         |                 |                     |
|----------------------------------|---------------------------------|---------|-----------------|---------------------|--------------------|---------|-----------------|---------------------|--------------------|---------|-----------------|---------------------|
|                                  | Lower Quartile.                 | Median. | Upper Quartile. | Quartile Deviation. | Lower Quartile.    | Median. | Upper Quartile. | Quartile Deviation. | Lower Quartile.    | Median. | Upper Quartile. | Quartile Deviation. |
| II.—Substitution ..              | 17.5                            | 20      | 24              | 3.25                | 19                 | 22      | 23.75           | 2.37                | 17.25              | 20      | 23              | 2.87                |
| V.—Spelling Correction ..        | 17                              | 22      | 27              | 5                   | 17                 | 21      | 27.75           | 5.37                | 16                 | 20      | 25              | 4.5                 |
| VII.—Number Checking ..          | 31                              | 35      | 42.5            | 5.75                | 33.25              | 37      | 42.75           | 4.75                | 31.25              | 35      | 40              | 4.37                |
| VIII.—Three Chain Association .. | 34                              | 40.5    | 46.5            | 6.25                | 36                 | 42      | 46              | 5                   | 36                 | 39      | 44              | 4                   |
| IX.—Listing ..                   | 15.5                            | 18      | 20.5            | 2.5                 | 15.25              | 18      | 21              | 2.87                | 16.25              | 18      | 20              | 1.87                |
| XII.—Concentration ..            | 117                             | 129.5   | 143             | 13                  | 124                | 132     | 144             | 10                  | 104.5              | 122     | 138.5           | 17                  |
| XIII.—Classification ..          | 12                              | 15      | 16              | 2                   | 11                 | 13      | 16              | 2.5                 | 10                 | 12      | 15              | 2.5                 |

The total scores for the typing, general efficiency and shorthand series yielded the following norms (for method of scoring, see below):

| Age. | Number of Cases. | Typing Score.   |         |                 |                     | Efficiency Score. |         |                 |                     | Shorthand Score. |         |                 |                     |
|------|------------------|-----------------|---------|-----------------|---------------------|-------------------|---------|-----------------|---------------------|------------------|---------|-----------------|---------------------|
|      |                  | Lower Quartile. | Median. | Upper Quartile. | Quartile Deviation. | Lower Quartile.   | Median. | Upper Quartile. | Quartile Deviation. | Lower Quartile.  | Median. | Upper Quartile. | Quartile Deviation. |
| 14   | 41               | 148             | 167     | 182             | 17                  | 118               | 126     | 143             | 12.5                | 149.25           | 156     | 173             | 11.9                |
| 15   | 41               | 169             | 183     | 197             | 14                  | 183               | 141     | 151             | 9                   | 157              | 174     | 187             | 15                  |
| 16   | 26               | 167             | 183     | 193             | 13                  | 124.5             | 143     | 149.5           | 12.5                | 157              | 167     | 182             | 12.5                |

As mentioned above, a cursory examination of the scores of the school classes as compared with school records shows that little or no correlation exists between school success and test results. To illustrate this, correlations of test results with position in school work for one class (3B, twenty in number) are given below:

| Test.                           |    | Correlation with School Position. |    |    |    |    |    |    |    |    |       |
|---------------------------------|----|-----------------------------------|----|----|----|----|----|----|----|----|-------|
|                                 |    | 1                                 | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10    |
| I.—Letter Cancellation ..       | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | 0.14  |
| II.—Substitution ..             | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | -0.02 |
| III.—Simple Arithmetic ..       | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | -0.20 |
| IV.—Item Checking ..            | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | -0.16 |
| V.—Spelling Correction ..       | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | 0     |
| VI.—Arithmetical Checking ..    | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | 0.14  |
| VII.—Number Checking ..         | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | -0.12 |
| VIII.—Free Chain Association .. | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | 0.37  |
| IX.—Listing ..                  | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | 0.09  |
| X.—Alphabetical Arrangement ..  | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | 0.22  |
| XI.—Numerical Arrangement ..    | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | -0.04 |
| XII.—Concentration ..           | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | 0.04  |
| XIII.—Classification ..         | .. | ..                                | .. | .. | .. | .. | .. | .. | .. | .. | -0.02 |

<sup>1</sup> It is to be regretted that the number of cases in this group is so small. Moreover, they cannot be regarded as a fair sampling of this age group, since they are drawn from classes of boys of a lower average age. This accounts for several anomalies in the norms.

The above results when contrasted with the correlations with actual clerical proficiency appear to indicate that the tests have vocational rather than educational significance.

In regard to rating, Link's method (see "Employment Psychology", page 400) was not regarded as altogether satisfactory. Link's method takes the *completed test* as a "point of reference" and determines the individual's rating by his divergence from this. But it should be pointed out that this method takes no account of the form of the distribution upon which the rating is founded. In the present investigation it is considered that the average is a better "point of reference". This has been done in the "weighted average" method adopted in determining total scores. It is obviously unfair to weight the total score for a test, since scores are so variously distributed in relation to the score for the completed test. Moreover, in the Concentration test there is no limit to the possible score.

The "weighted average" method is therefore adopted in this investigation. In obtaining total scores by the weighted average method the scores for each test are weighted in such a way that the averages of the tests shall stand in approximately the same relation to one another as the correlations of the tests. This method gives separate scores for typing, office efficiency and shorthand. In the present case the crude scores for the tests are treated as follows to obtain total scores for each of the branches of clerical work treated (C.S. = crude score) :

| Test.  | Typing Scores.   | Office Efficiency Scores.   | Shorthand Scores.   |
|--------|------------------|-----------------------------|---------------------|
| II     | C.S.             | C.S.                        | C.S.                |
| V      | C.S.             | C.S. $\div$ 2               | 0                   |
| VII    | C.S. $\div$ 2    | C.S.                        | 0                   |
| VIII   | C.S. $\div$ 2    | 0                           | C.S.                |
| IX     | C.S.             | 0                           | C.S. $\times$ 2     |
| XII    | C.S. $\div$ 5    | C.S. $\div$ 4               | C.S. $\div$ 4       |
| XIII   | C.S. $\times$ 4  | C.S. $\times$ 3             | C.S. $\times$ 3     |
| Totals | Score for Typing | Score for Office Efficiency | Score for Shorthand |

This method when applied to Group B yielded the following correlations with independent estimates :

|                         |    |    |    |      |             |
|-------------------------|----|----|----|------|-------------|
| Typing Score            | .. | .. | .. | 0.65 | P.E. = 0.09 |
| Office Efficiency Score | .. | .. | .. | 0.59 | P.E. = 0.10 |
| Shorthand Score         | .. | .. | .. | 0.56 | P.E. = 0.13 |

#### CONCLUSIONS.

1. The present investigation is merely a preliminary one and should be followed up by a more thorough research. The conclusions reached are therefore only tentative.
2. Satisfactory results may be obtained by giving group tests with time-limits as opposed to Thurstone's method (see above).
3. The results of the present scale must, for purposes of vocational guidance and selection, be supplemented by a general intelligence test, temperamental assessment, and, in the case of typists, tests of motor capacity.
4. The final correlations of total test scores with success in clerical work are :

|                                |    |    |    |      |             |
|--------------------------------|----|----|----|------|-------------|
| With Typing                    | .. | .. | .. | 0.65 | P.E. = 0.09 |
| With General Office Efficiency | .. | .. | .. | 0.59 | P.E. = 0.10 |
| With Shorthand                 | .. | .. | .. | 0.56 | P.E. = 0.13 |

## II.

## ADDITIONAL NORMS FOR CLERICAL TESTS.

By ENID P. CARPENTER and MARGERY MIRK,  
Sydney University Laboratory.

THIS work was undertaken with the object of establishing further norms for the tests for clerical workers, for subjects from fourteen to sixteen years.

The work was carried out in Commercial Schools, after permission to do so had been granted by the Department of Education, through Mr. Smith, Director of Education, and Mr. Elliot, Chief Inspector of Schools. Before continuing, we would like to thank all of the above, as well as the Head Masters and the staff of the schools visited, for the courtesies they extended.

The tests were administered to 250 subjects in groups of about 30 at a time. The division of the cases between the ages and sex of the subjects was necessarily uneven, since there is a greater number of boys than girls at the Commercial Schools.

The following schools and classes were visited : Manly Intermediate Commercial High, Cleveland Street High (Commercial Classes), and Randwick Intermediate Commercial High ; and classes 3A and 3B at Manly, 3A and 3B at Cleveland Street, and 3A, 3B and 3C at Randwick, for boys. In the case of the girls' schools, subjects were selected from 9A at Randwick and 3A at Manly Commercial High Schools.

The number of cases was divided in the following way : 103 boys of an average age of fourteen years, 70 at an average of fifteen years ; 55 girls of an average of fourteen years, 22 at an average of fifteen years. The average and the average deviation were compiled from the results for the total score, and for the scores of each individual test for the years' group of each sex examined.

In every school visited the staff and subjects showed the greatest interest in the tests, and no difficulty at all was met in this aspect of the administration of the tests. Except in the case of the Substitution Test, which presented some difficulties in the comprehension of directions by the subjects, the instructions for the remaining tests were readily understood and followed.

On examining the results during the scoring of the papers, the general impression was that the subjects tested were very accurate ; very few individual mistakes were made, except in some isolated cases where the subject misunderstood the directions at the beginning. Such results have been excluded from the norms. This occurred most often in the case of the number checking test, where both the 6 and the 9 were crossed out. Total scores ranged from 96 to 381, and the best two scores were made by foreigners—a Jewish boy and an Egyptian girl.

TABLE I.—BOYS.

|                        | 14 Years.  |                    | 15 Years. |                    |
|------------------------|------------|--------------------|-----------|--------------------|
|                        | 103 Cases. |                    | 70 Cases. |                    |
|                        | Average.   | Average Deviation. | Average.  | Average Deviation. |
| Substitution ..        | ..         | ..                 | 17.6      | 3.7                |
| Spelling Correction .. | ..         | ..                 | 15.5      | 5.2                |
| Number Checking ..     | ..         | ..                 | 32.4      | 5.3                |
| Free Association ..    | ..         | ..                 | 38.9      | 6.5                |
| Listing ..             | ..         | ..                 | 16.3      | 2.5                |
| Concentration ..       | ..         | ..                 | 118       | 15.7               |
| Classification ..      | ..         | ..                 | 12        | 2.4                |
| Totals ..              | ..         | ..                 | 279       | 33.5               |
|                        |            |                    | 271.4     | 30                 |

TABLE II.—GIRLS.

|                        | 14 Years. |                    | 15 Years. |                    |
|------------------------|-----------|--------------------|-----------|--------------------|
|                        | 55 Cases. |                    | 22 Cases. |                    |
|                        | Average.  | Average Deviation. | Average.  | Average Deviation. |
| Substitution ..        | 16.5      | 5                  | 16        | 4.9                |
| Spelling Correction .. | 20.1      | 6.2                | 19.8      | 5.9                |
| Number Checking ..     | 38        | 6.5                | 30.5      | 6                  |
| Free Association ..    | 40.5      | 10.6               | 38.7      | 5.7                |
| Concentration ..       | 120.9     | 18.5               | 128.5     | 11.7               |
| Listing ..             | 16.7      | 2.8                | 17.2      | 2.2                |
| Classification ..      | 11.2      | 2.6                | 11.2      | 3.1                |
| Totals ..              | 260       | 29.5               | 251       | 28                 |

## REVIEWS.

PHILOSOPHICAL INSTRUCTION IN HARVARD UNIVERSITY FROM 1636 to 1906. By Benjamin Rand, Ph.D., LL.D. Reprinted from *The Harvard Graduates' Magazine*, Vol. XXXVII. 1928-29. Harvard University Press.

This booklet consists mainly, as might be expected, of an account of philosophical syllabuses and teachers at Harvard. As it covers 270 years, most of it is of little more than antiquarian interest. What might be called the modern section of the period begins at about 1880 with the introduction of the elective system of studies and the almost synchronous enlargement of the philosophical staff, so that five years later there were five professors. As it is difficult to summarize this pamphlet, we may be content to note a few outstanding points:

1. As to the syllabus, there have been constant changes as the result of constant experimentation. The Harvard men have felt no particular reverence for an established mode of instruction just because it is established.

2. The result up to date has been the division of the instruction into three grades—introductory, advanced, and graduate (research). The elementary courses have in view the many students who will go no farther with the subject; the practice has also been to entrust these classes to the most experienced teachers in the department.

3. The largeness of the teaching staff has given opportunity to its members for specialization and for doing original work. It has also made possible a very wide syllabus. This divides into a systematic and an historical group of courses, of which the latter has gradually increased in number and importance.

4. The Philosophy Department has its own library, of 40,000 volumes, and its very own building, the Emerson Hall.

In our sanguine moments we may dare to hope that Australian Universities will some day do justice to their most important subject of tuition in a manner, or at least in a spirit, resembling that exhibited at Harvard.

A. C. FOX.

THE ECONOMICS OF AUSTRALIAN COAL. By F. R. E. Mauldon, B.A., M.Ed., Senior Lecturer in Economics, University of Melbourne. Melbourne University Press. 1929. Price: 10s. 6d.

Mr. Mauldon, in his interesting and admirably lucid book, has provided us with an analysis of the Australian coal industry, its resources of coal, technique, organization, and the internal and overseas markets, as well as sections on the problems of the coal industry and suggested solutions of these problems. New South Wales is, at present, facing a stoppage in the coal industry. We onlookers are unable to secure the facts about the case because of the bitterness which exaggerates the grievances and vitiates the judgment of those engaged in the dispute. It is very fortunate, in the circumstances, that we are able to turn to a book which sets out the problems in an unbiased manner and offers, for the improvement of the industry, proposals which are the result of first-hand experience on the northern coal-fields, and a deep knowledge of economic principles.

Despite the undoubted interest and importance of the first part of the book as an analysis of the industry, one cannot fail to be interested particularly in the succeeding sections. One has felt for some time that the coal industry has developed without very much attention being given to the extent of the markets, the rational development of resources and other basic considerations. New collieries have been opened and huge capital sums invested at times when the state of the industry did not warrant such expansion. The solution, as Mr. Mauldon points out, is not to be found in nationalization, but some attempt at co-ordination is absolutely essential. The time is passed when individuals should be allowed to attempt the development of national assets without reference to the welfare of Australia as a whole. Some attempt at "rationalization" is most urgently needed.

The problem of industrial relations in the industry is another subject treated by Mr. Mauldon in a clear and instructive manner. The powerful unions on both sides, the peculiar psychology of the miners, the traditional plea for autocracy by the employers, the sense of suspicion which comes from restriction of output, the refusal by the owners to make public the full facts about the industry, all lead to "envy, hatred, malice and all uncharitableness", and result in a continued succession of impasses.

Mr. Mauldon's opinions and suggestions regarding profits and wages are of particular interest at the present time. Australian employees, in common with those of other countries, have so often been misled by half-truths that it is only natural for them to treat with suspicion all statements regarding the industrial situation which are not proved up to the hilt. A recent inquiry into the coal position fixed the average profits per ton at 2s. 1·6d. This finding is undoubtedly an honest and correct estimate of the position according to the information available. But the employees and the public were excluded from the most important part of the inquiry, and we cannot wonder that the former were not prepared to believe the ultimate finding. The only thing to do is to make the proceedings of such inquiries public, especially where they relate to financial matters. In Germany employees have legal right to information regarding the financing of the enterprise, profit and loss, and so on. The mere fact of being able to secure the information should they desire it is sufficient to lull their suspicions about the veracity and good faith of the employers. As a matter of fact, experience has shown that the normal employee loses interest once he has secured the opportunity to find out for himself. The same thing might, perhaps, be the case on the Australian coalfields. We can dismiss the statement that the publication of information would lead to a collapse of credit and a loss of faith in the industry by consumers as being worthy of little discussion. There is no need to publish detailed accounts of the financial position of each particular firm, but a general statement of the position of the industry, allied to the right of employees to see the books, financial statements and balance sheets, would, we believe, do a great deal to remove suspicion

and discontent. Both sides will need to yield something if lasting peace is to be secured, and the owners might well lead the way by forfeiting their traditional right to omnipotence in financial matters.

To all students of Australian industry Mr. Mauldon's book will provide material for thought, and, indeed, information from which considered conclusions may be drawn. "The Economics of Australian Coal" might well be used as a textbook by all Australians, and, in particular, by those who are endeavouring to bring order out of chaos on the northern coalfields of New South Wales.

University of Sydney.

R. B. MADGWICK.

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THE AUSTRALIAN TARIFF : AN ECONOMIC ENQUIRY. By J. B. Brigden, D. B. Copland, E. C. Dyason, L. F. Giblin, and C. H. Wickens. (Melbourne University Press, 1929.) 232 pp. Price: 2s. 6d.

The title page of this book bears the motto: "My favourite *dictum* is—'Every statement in regard to economic affairs which is short is a misleading fragment, a fallacy or a truism.'—*Alfred Marshall to Louis Fry, 1914.*"

But the authors do not add, as did Marshall, that he was not sure whether *this* dictum was an exception to the general rule, or not. "The Australian Tariff" is not, in fact, a large book, as books on tariff problems go, but it is so closely reasoned throughout that it is clearly not a mere truism. Probably few recent books on economics of similar length will take so long to read. The appointment of this informal committee was one of Mr. Bruce's progressive steps towards obtaining detailed and expert advice on economic matters, and it is fortunate that this report appeared soon enough to escape the political axe that fell on the neck of Mr. Bruce's other economic chickens, *viz.*, the Bureau for Economic Research and the Development and Migration Commission. Tariff policy involves two questions: "Is a tariff economically desirable?" and "If so, how should it be imposed and administered?" As in most countries, the advice of economists had not been sought by those who had to answer these questions in Australia. The first is usually answered in the affirmative, as a matter of national faith, and it is generally assumed that the answer to the second question is not difficult to give. A Tariff Board has been appointed to advise the Government in this matter, but has neither attempted to obtain the advice of expert economists nor demonstrated its own ability to form expert economic judgments. The appointment of the informal committee that provides us with this book suggests the presence of rising doubts among members of the Government as to whether previous policy had been, in fact, economically sound.

The general verdict of this committee is that the tariff has been effective in securing for Australia an increasing population at a standard of living as high, or higher than that obtainable under free trade, but that the principles of administration of the tariff and of the allocation of protection to particular industries demand review. Detailed estimates are made of the total cost of the tariff to the community, and the incidence of this cost among different sections of the nation. The most readable and accurate outline of the substance of the book appears in an unsigned article in *The Round Table* for December, 1929, and the most profound criticisms that I have yet seen will be found in a review by Professor Jacob Viner (of Columbia) in the November issue of *The Economic Record*.

The work is one of exceptional merit, although the writer of this notice feels that the committee's approach through the incidence of costs is not altogether the best, and that some of the broader assumptions of the book demand criticism. For instance, too little attention is given to the effects of tariff protection upon the inefficiency of management. Again, it is important to realize that this tariff policy has been associated with a

"manufacturing industries" complex, and that under free trade the psychological attitude of the community towards the primary industries might have been different.

The recent change of Government, however, quashed the committee's plea for a more scientific tariff, and caution in its extension, and there is no prospect of more economic methods being adopted than has been the case in the past.

E. R. WALKER.

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A COMPARISON OF KANT'S IDEALISM WITH THAT OF BERKELEY.

By H. W. B. Joseph, M.A. From *Proc. of the British Academy*, Vol. XV. London : Oxford University Press. 1929. Price : 1s. 6d.

Mr. Joseph contrasts Berkeley's idealism with Kant's "Refutation of Idealism", a doctrine which is difficult to harmonize with the general standpoint of the "Critique", and concludes that Kant's claim to have "refuted" idealism cannot be upheld. Kant's argument is that "all true determination presupposes something permanent in perception", and what he is trying to prove is that we can, on the basis of this, distinguish between the order of our perceptions and a real objective order. The weaknesses of the said Analogy are well known, and it is something of the same confusion that reappears in the "Refutation". Mr. Joseph argues that "If, as Kant is trying to prove, there are real things outside me which may exist and change unperceived, their existence is also determined in time; but as their existence, and so the time-relatedness involved in their existence, do not presuppose perception, they do not presuppose anything permanent in perception." Kant denies, further, that the "something permanent" could be anything in me, *i.e.*, one of my changing states, for these are perceived only against the background of the permanent thing we are seeking. But Kant's argument, according to Mr. Joseph, is "incomplete"; for it does not consider the possibility that the permanent background might be "the self which is not any of its states". "Why must it be a thing without me?" he asks. To this it is sufficient to reply that a "Refutation of Idealism" must be concerned to establish the existence of "a thing without me"; and that even if Kant had considered this possibility, he could not consistently have referred to the pure self as "something permanent in perception". The main ground of Mr. Joseph's criticism of Berkeley is the difficulty of distinguishing, on Berkeley's principles, between real and illusory perceptions; both of which are ideas or groups of ideas. He connects this in an interesting way with the criticism of Kant's unknown X, which is said to give unity to the *Vorstellungen* and to determine the objectivity of the perception; and shows that neither Berkeley nor Kant is able to give a cogent solution. The lecture concludes with an enumeration of the usual objections to "common-sense realism" and a restatement of the traditional idealistic position which Mr. Joseph evidently wishes to adopt, in spite of his own criticisms of Kant and Berkeley.

NORMAN PORTER.

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SCIENCE AND PERSONALITY. By William Brown, M.A., M.D. (Oxon), D.Sc. (Lond.). Oxford University Press. 1929. Price : 12s. 6d.

This book is somewhat difficult to give an account of. The author tells us that its general purpose is the consideration of religion in the light of science and philosophy. At first sight the connection with science and personality is not obvious, but eventually we learn that we are to understand by personality, in Dr. Brown's use of the word, a form of mental organization within which all the powers of the individual mind are subordinated to the pursuit of three ideal values—goodness, beauty, and truth. These values teach us that we belong to one another and are all members of one universe. "We find ourselves in the universe", Dr. Brown says; "This is what I call

personality" (p. 236). Thus personality, in Dr. Brown's view, is something which we may aim at but never completely attain. This view of personality is connected with a specific religious attitude towards the universe as a whole. The values in question are "abstractions or aspects of ultimate reality or the absolute"—in other words, of God, who is conceived as the "concretion or realization of all values, beyond time" (p. 237). Perhaps one might express Dr. Brown's meaning by saying that while the progressive organization of the interests of the individual under the three ideal heads just mentioned is the development of personality as he understands it, at the same time such a development is, in his view, actually the completest possible adjustment of the individual's powers to the facts of the universe as a whole. Dr. Brown naturally attaches great importance to this view of human life and of things in general. As to whether it is true of the universe or not I can express no opinion, but at any rate the human ideal which Dr. Brown puts before us is a worthy one, and we are justified in turning to the science of mind for light on the question of how we may best realize it.

In this connection the book is, I think, disappointing. The discussion of the ideal above mentioned is practically confined to the first and last chapters and the concluding portion of chapter VII. Apart from these there is no connected discussion of it, the rest of the book consisting of a number of more or less separate essays or papers on a variety of scientific subjects, chiefly psychological, but rather loosely strung together. Owing to the number of topics treated and the want of organic arrangement the discussion is apt to be somewhat sketchy and disjointed, and it is sometimes difficult to be certain what Dr. Brown's views really are. At least the present reviewer has found it so. I may instance in this connection Dr. Brown's account of pathological dissociation, a topic which bears directly upon personality. Dissociation of ideas and interests is a normal feature of mental function. Without it, for instance, we should not be able to stick to the point in an ordinary conversation, since this involves the inhibition and control of irrelevant interests and ideas which would otherwise intrude. Dr. Brown tells us (chap. IV, p. 38) that the difference between normal and pathological dissociation is that in the first case we have a successful rejection (of some interest or other) and in the second case an unsuccessful one. This is a clear statement, though not a very satisfactory one, since an equally important point, from the pathological point of view, is the amount of energy which may be lost to the conscious personality (in the ordinary sense) through the rejection, whether it is successful or not. On page 65 (chap. VI), however, we meet with a second account of pathological dissociation, a sketch of Freud's theory of repression, in which the point just referred to is clearly brought out. Dr. Brown then concludes: "(Freud's) description is too pictorial and obviously inadequate. Freud's conception of presentations as either conscious or unconscious, and as being distinct from the instinctive tendency, which is in its turn distinct from the energy sustaining it—all this is much too metaphorical. Nevertheless", he adds, "it is an attempt to read order into a collection of facts . . . which do not in general admit of more direct or obvious explanation", and "it can only be adequately tested and corrected" by the use of methods similar to that employed by Freud. We now expect to hear in what respects Freud's description is inadequate and too metaphorical, and how Dr. Brown's own view differs from his in content and expression. But nothing is said about this, and we are left in doubt as to what Dr. Brown's view is—the more so as, on the next page but one, Dr. Brown admits the reality of unconscious fantasy, "although this may seem a contradiction in terms".

This method of discussion is to be met with more than once, more especially in relation to the doctrines of Freud, which bulk largely in the book as a whole. Thus seven pages out of eleven in a chapter on the influence of mind on body and on "the unconscious mind" are occupied with a description of Freud's views, while at the end we are told simply that "the whole Freudian system is absolutely bare and lacking in any criterion of

truth" (p. 115). It seems impossible that Dr. Brown should not be acquainted with Freud's doctrine of the "reality principle", and with the fact that, from Freud's point of view, the scientific method is the most perfect development of it which we at present possess. But, in any case, if the statement quoted were true, it would follow that Freud's views are valueless. Why, then, waste time on them?

The book suffers from the fact that the ground which the author attempts to cover is too wide for the space at his disposal, and from the want of organic arrangement to which I have already referred. Dr. Brown's energy and enthusiasm are well known, and a reasoned account of his views on mental structure and function in the light of his own experience would be welcome, but such an account is not to be found in this book.

Two chapters are included on Dr. Brown's experiences in psychical research.

J. P. LOWSON.

## BOOKS RECEIVED.

**KANT SELECTIONS.** Edited by Theodore M. Green. New York: Charles Scribner's Sons. 1929.

**SELECTIONS FROM MEDIEVAL PHILOSOPHERS.** Edited by Richard McKeon. New York: Charles Scribner's Sons. 1929.

**IMMANUEL KANT'S CRITIQUE OF PURE REASON.** Translated by Norman Kemp Smith. London: Macmillan & Co. 1929. Price: 25s.

**THE MEASUREMENT OF PROGRESS: A STUDY OF TERM EXAMINATIONS.** By W. J. Stainer. London: George G. Harrap & Co. 1929. Price: 5s.

**LE SYSTÈME D'ALEXANDER.** By Phillippe Devaux. Paris: Librairie Philosophique J. Vrin. 1929. Price: 25 francs.

**NOTIONS SUR LE LANGAGE.** By L'Abbé Robert Jacquin. Paris: Librairie Philosophique J. Vrin. 1929.

**SOME ASPECTS OF PRIMARY AND SECONDARY EDUCATION.** By R. W. Gordon Mackay. Sydney: New Century Press, Ltd. 1929. Price: 6s. 6d.

## JOURNALS RECEIVED.

**THE JOURNAL OF PHILOSOPHY.** Edited by Professors Woodbridge, Bush and Schneider, Columbia University. Published fortnightly. 4 dollars a year.

Vol. XXVI. No. 24. November 21, 1929. Qualities, Relations and a Paradox of Judgment: D. W. Gotshalk. Time-Systems as Perspectives: J. A. Lynch. No. 25. December 5. Art and Culture: Wendell T. Bush. The Dilemma of an Experiential Esthetician: Marjorie S. Harris. No. 26. December 19. The Sphere of Application of the Excluded Middle: John Dewey. Can Logic be Divorced from Ontology?: Ernest Nagel. Vol. XXVII. No. 1. January 2, 1930. Religion and Art: Wendell T. Bush. No. 2. January 16. Of What Use are Whitehead's Eternal Objects?: Everett W. Hall.

**THE ECONOMIC RECORD.** Journal of the Economic Society of Australia and New Zealand. Melbourne University Press. Price: 5s.

Vol. V. No. 9. November, 1929. Natural Selection and Climate in Northern Australia: Ellsworth Huntington. Local Body Indebtedness in New Zealand: Auckland Branch. Allocation of Factory Output:

C. H. Wickens. *The Drift to the Towns*: A. G. B. Fisher. *Theories of Population and Their Application to Australia*: M. H. Belz. *Consumers' Co-operation in New South Wales*: W. K. McConnell. *The Productive Efficiency of Tasmanian Farming*: G. C. Billing. *The Report of the Royal Commission on the Constitution of the Commonwealth*: K. H. Bailey. *Industrial Relations*: F. R. E. Mauldon. *The Australian Tariff*: Jacob Viner. *Business Conditions in Victoria*: Victorian Branch.

**PSYCHE.** Edited by C. K. Ogden. Kegan Paul, Trench, Trubner & Co., London. Published quarterly. Price: 5s.

No. 38. October, 1929. *The Progress of Basic*: Editorial. *Ghosts, Fictions, and Incomplete Symbols*: Adelyne More. *The Bodily Symptoms of Elementary Emotions*: W. M. Marston. *The Inherited Factors in Human Behaviour*: W. B. Crow. *Life and Radiation*: O. L. Reiser. *Bentham on Inventions*: C. K. Ogden.

**INTERNATIONAL JOURNAL OF PSYCHO-ANALYSIS.** Official Organ of the International Psycho-Analytical Association. Baillière, Tindall & Cox, London. Price: 30s. per annum.

Vol. X. Part 4. October, 1929. *Fear, Guilt and Hate*: Ernest Jones. *Psychogenic Material related to the Function of the Semi-circular Canals*: Thomas M. French. "Active" Psycho-Analytical Technique and the Will to Recovery: René Laforgue. Danger Situations of the Immature Ego: N. Searl. Shorter Communications.

**L'ANNÉE PSYCHOLOGIQUE.** Edited by Henri Piéron. Paris: Félix Alcan. Price: 120 francs.

Vol. XXIX. 1928. In Two Parts. *Le problème des impressions de mouvement consécutives d'ordre visuel*: G. Durup. *Contribution à l'étude des facteurs régissant le taux de sommation des impressions lumineuses de surface inégale*: N. Kleitman et H. Piéron. *Les inhibitions internes de fixation*: M. Foucault. *L'Etalonnage français du test de Barcelone*: Mme. H. Piéron. *Le problème des excitations brèves*: A. Fessard. *De l'influence de la durée des sons sur leur timbre*: H. D. Bouman and P. Kucharski. *Les lois du temps du chroma des sensations lumineuses*: H. Piéron. *Le langage et les articulations de la pensée*: D. Bertrand-Barraud. There follows, as usual, an incomparable series of bibliographical analyses.

**ARCHIVES DE PSYCHOLOGIE.** Edited by Ed. Claparède. Kundig, Geneva; Williams & Norgate, London. 4 numbers a year. Price: 16 francs a year.

Vol. XXII. No. 85. September, 1929. *Deux types d'intelligence*: William Deriaz. *Le test de Rorschach appliqué à différents groupes d'enfants de 10-13 ans*: Marguerite Loosli-Usteri.

**RIVISTA DI FILOSOFIA NEO-SCOLASTICA.** Published by the Faculty of Philosophy of the Catholic University of the Sacred Heart. Direction and Administration at Milan, via S. Agnese, 2. Subscription: L.28.30.

Vol. XXI. Parts 5-6. September-December, 1929. *I rapporti di scienza e filosofia nella storia del pensiero italiano*: Agostino Gemelli. *Ritrattazione dell'ortodossia campanelliana*: Romano Amerio. *L'opera teologica di Tommaso Campanella*: Romano Amerio. *La scuola francescana e l'Averroismo*: Krzanic Cristoforo. *Realtà ad intelligenza*: Carlo Mazzantini. *Valutazione analitica e valutazione dialettica della filosofia moderna*: Gustavo Bontadini.

**ARCHIVOS BRASILEIROS DE HYGIENE MENTAL.** Official Organ of the Brazilian League of Mental Hygiene. Praça Floriano, No. 7. Rio de Janeiro. Published monthly. Price: 30 dollars per annum.

Vol. II. No. 1. October, 1929. Editorial. A lues como factor distrofiantre: Juliano Moreira. Familia de hemofilicos: Renato Kehl.

**NEW YORK UNIVERSITY LAW QUARTERLY REVIEW.** Issued by New York University Law Students. Washington Square East, New York City. Price: 4 dollars a year.

Vol. VII. No. 1. September, 1929. The Indian States: William S. Holdsworth. Contractual Obligations and Transfers of Personal Representatives: Alvin E. Evans. The O'Fallon Case: William M. Wherry. Equitable Relief Against Trespass: William F. Walsh. An Action at Law in the Time of the Commonwealth: William Renwick Riddell. Analytical Jurisprudence as related to Modern Legal Methods: Frederick J. de Sloovere. The New York Rapid Transit Contracts before the Supreme Court: John Bauer. Bentham—Philosopher and Reformer: William H. Alexander. No. 2. December, 1929. The Traditional Element in Grotius' Conception of International Law: Elemer Balogh. Bank Deposits of Commercial Paper: Wayne L. Townshend. Organized Crime as a Business and Its Bearing on the Administration of Criminal Law: Martin Conboy. Equitable Relief against Nuisance: William F. Walsh. Anglo-American and Continental European Administrative Law: James W. Garner. Pleading *Res Ipsa Loquitur*: Russell D. Niles. Jurisdiction of the New York Courts in Divorce and Separation Actions: Irving J. Levy. Jeremy Bentham—Philosopher and Reformer: William H. Alexander.

**THE JOURNAL OF SOCIAL PSYCHOLOGY.** Edited by John Dewey and Carl Murchison. Clark University Press. Published quarterly. Price: 7 dollars per annum.

Vol. I. No. 1. February, 1930. A Neurotic Inventory: L. L. Thurstone and Thelma Gwinn Thurstone. The Development of Men of Science: A. T. Poffenberger. The Psychological Basis of Neurosis and Dream: Trigant Burrow. Recent Improvements in Devices for Rating Character: Mark A. May and Hugh Hartshorne. The Contribution of Ten Chronicles-of-America Photoplays to Seventh-Grade History Teaching: J. W. Tilton and Daniel C. Knowlton. A Quantitative Comparison of Rational Responses of Negro and White College Students: James L. Graham. An Objectivity-Subjectivity Ratio for Scales of Measurement: Henry F. Adams. Why Do We Weep?: Frederick H. Lund.

**THE EUGENICS REVIEW.** Published quarterly by the Eugenics Society, 20 Grosvenor Gardens, London, S.W. 1. Macmillan & Co. Price: 12s. per annum.

Vol. XX. No. 4. January, 1929. Eugenical Reform of the House of Lords: F. C. S. Schiller. The Kin of Genius (II): W. T. J. Gun. "Rejuvenation" and Voronoff's Racial Claims: Arthur Walton. The Differential Birth Rate Changes: Karl Arvid Edin.

**MEDICAL RESEARCH COUNCIL'S REPORTS.** H.M. Stationery Office, London.

Report No. 57. Further Experiments on the Use of Special Spectacles in Very Fine Processes. By H. C. Weston and S. Adams. 1929. Price: 1s. 3d.

**WELFARE WORK.** The Journal of the Institute of Industrial Welfare Workers. 29 Gordon Square, London, W.C. 1. Price: 5s. per annum.

**THE MEDICAL JOURNAL OF AUSTRALIA.** Sydney. Published weekly. Price: 1s.

This Journal frequently contains articles of great interest to those of our readers who are interested in Psychiatry or Psychological Medicine.

## NOTES AND NEWS.

The Annual Congress of the Australasian Association of Psychology and Philosophy will be held at Victoria University College, Wellington, New Zealand, in May. The arrangements are :

Monday, May 12th.—11 a.m. Delegates meet for morning tea.  
President's Address.

2.30 p.m. Papers by members.  
8 p.m. Popular address.

Tuesday, May 13th.—10 a.m. Papers.  
2.30 p.m. Papers.

8 p.m. Popular address.

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Dr. A. H. Martin, Lecturer on Psychology at the University of Sydney and Honorary Director of the Australian Institute of Industrial Psychology, has been awarded the University Medal of Columbia University, New York. This medal is awarded to alumni of the University in recognition of public service of a general nature or for service to the University itself. This is the first award of the medal, and was made in October last on the occasion of the celebration of the 175th anniversary of the granting of the charter of King's College, now Columbia University. The medal "was awarded to alumni of foreign birth who, having secured their Degrees at Columbia, have returned to their native lands and there achieved distinction".

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At a meeting in Melbourne, on February 10th and 11th, was formally established the National Council of Educational Research. Dr. K. S. Cunningham, M.A. (Melbourne) and Ph.D. (Columbia), of Teachers' College, Melbourne, was appointed Executive Officer. The National Council of Educational Research has been rendered possible by the generosity of the Carnegie Corporation of New York.

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In the University of Western Australia the subject of Psychology is to have a department of its own as distinct from Philosophy. Dr. H. L. Fowler will be Lecturer-in-charge, and Miss E. T. Stoneman, of the State Psychological Clinic, will continue as Part-Time Lecturer.

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21. *Boy Scouts' Association* : Mr. H. R. Lee.
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PROSPECTUS.

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Since in recent years there has been a decided development in all forms of social work, and social problems have become more complicated, it is being realized more and more that the services of trained social workers are necessary in order to cope with these problems adequately and efficiently.

To satisfy this urgent need, a Board has been formed consisting of members of the teaching staff of the Sydney University members of the National Council of Women, and one representative each from organizations engaged in social work. Its object is to provide and to control a course of study both theoretical and practical, and to grant a certificate in Social Study and Training to students who have successfully completed the course.

The course of study provided by the Board embraces subjects essential for the training of every type of social worker and prepares students for whatever branch of social work they may wish to pursue.

This course of study provides for the student a means of developing his understanding of individuals and of widening his social outlook, factors which are so essential for the successful conduct of all social work.

Ample provision is also made for the practical application of these subjects, in case work and in field work.

The course is designed for students seeking professional training that should lead to salaried or honorary positions in (1) public and private relief of dependency, (2) public administration, (3) correctional work in connection with juvenile courts, (4) social service in clinics and hospitals, (5) industrial welfare work, (6) settlement and community organization work, (7) vocational

education, (8) playground and recreation service, (9) public health service, (10) women police service, (11) child welfare work, (12) factory inspection, and the various other types of social work.

*Regulations for Certificate in Social Study and Training.*

1. *Preliminary Qualifications of Candidates*: Matriculation or Leaving Certificate. Students with one year's practical experience under a recognized social institution may be admitted, if they give satisfactory evidence as to their general education and suitability.
2. *Length of Course*: Normally the course will take two years, but may be shortened to one year or extended over three years, according to the academic standing of the student, the amount of time which can be devoted to study, the provision made for the courses, and the practical work required.
3. On completion of each of the required courses of theoretical study an examination will be held, and candidates who have passed all examinations and who have fulfilled to the satisfaction of the committee of examiners of the Board the requirements set down for practical training, and any other requirements that may from time to time be laid down, will be awarded a certificate.

Students wishing to enter for this course must make application to and obtain approval of the Board of Social Study and Training before enrolment at the University.

Such application must be made not later than Monday, February 10, three (3) weeks before the opening session in March, 1930.

*Courses of Study.*

**A. Theoretical Study.**

*First Year:*

1. Psychology I.—60 Lectures, 3 terms first year. *Day* : Tuesday, Friday, 2 p.m. *Evening* : Tuesday, 7 p.m. ; Wednesday, 5 p.m.
2. Economics I.—90 Lectures, 3 terms first year. *Day* : Monday, 2 p.m. ; Wednesday, 11 a.m. ; Friday, 11 a.m. *Evening* : Monday, Wednesday, Friday, 6 p.m.

*Second Year:*

3. Psychology II.—90 Lectures and 30 hours practical work, 3 terms. *Day* : Tuesday, 4 p.m. ; Wednesday, 4 p.m. ; Friday, 4 till 5 p.m. Laboratory hours to be arranged.
4. Economics III.—30 Lectures in Problems of Distribution, including Poverty, Wages and Unemployment (given in 1929 and alternate years). One term. *Day* : Monday, 2 p.m. ; Wednesday, 11 a.m. ; Friday, 11 a.m. *Evening* : Monday, Wednesday, Friday, 7 p.m.
5. Hygiene—Industrial and Medical. First Aid and Nursing Practice.
6. Social Science.

**B. Practical Training.**

**A. General (Required from all Candidates):**

- (1) Work under a recognized society in :

- (a) Office work.
- (b) Case work.
- (c) Club work for adolescents and adults.
- (d) Housing.

- (2) Visits to public and private institutions to gain a general knowledge of the various existing social agencies.

## B. Special (Required from Candidates according to Future Work):

This practical work will extend over three terms or one academic year. Students will be required to devote to it  $2\frac{1}{2}$  days a week or a total of approximately ten (10) weeks.

Discussion classes and tutorial instruction on practical work will occupy two hours weekly.

*Fees for Lectures.*

|                                   |    |    |    |    | £                 | s. | d.          |
|-----------------------------------|----|----|----|----|-------------------|----|-------------|
| Psychology I ..                   | .. | .. | .. | .. | 2                 | 2  | 0 per term. |
| Economics I ..                    | .. | .. | .. | .. | 3                 | 3  | 0 "         |
| { Psychology II ..                | .. | .. | .. | .. | 3                 | 3  | 0 "         |
| Practical Work ..                 | .. | .. | .. | .. | 1                 | 11 | 6 "         |
| Economics III ..                  | .. | .. | .. | .. | 3                 | 3  | 0 "         |
| Social Science ..                 | .. | .. | .. | .. | 3                 | 3  | 0 "         |
| Hygiene ..                        | .. | .. | .. | .. | By arrangement.   |    |             |
| First Aid and Nursing Practice .. | .. | .. | .. | .. | " "               |    |             |
| { Practical Work ..               | .. | .. | .. | .. | } 2 2 0 per term. |    |             |
| Tuition ..                        | .. | .. | .. | .. |                   |    |             |

All communications should be addressed to Miss M. C. Davis, B.A.,  
4 Windsor Flats, Kent Road, Rose Bay, Sydney.

The office of the Board is to be found at Room 9, Second Floor,  
5 Hamilton Street, Sydney.



